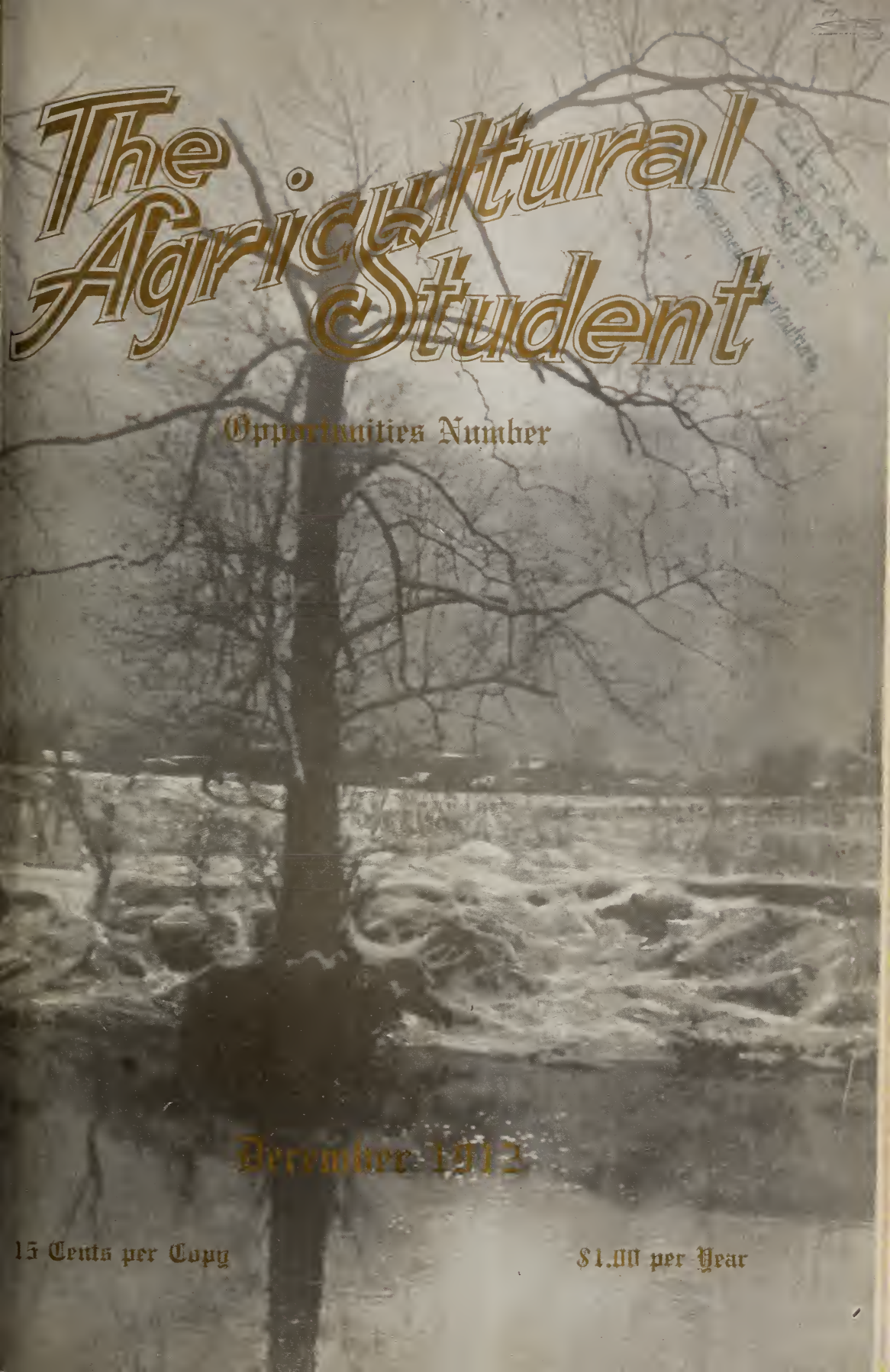


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The Agricultural Student

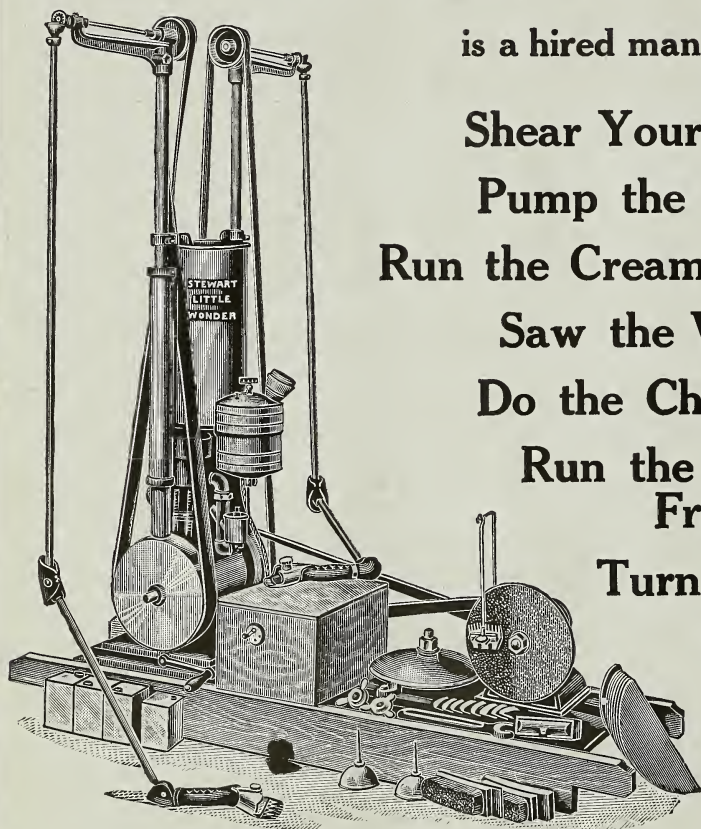
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December 1912

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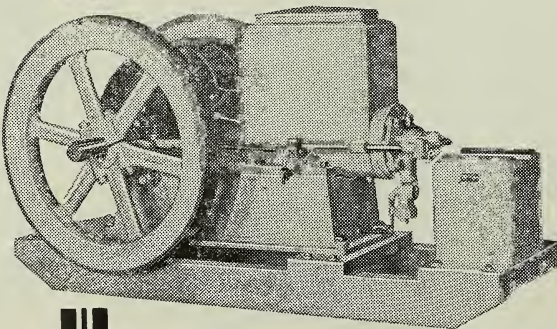
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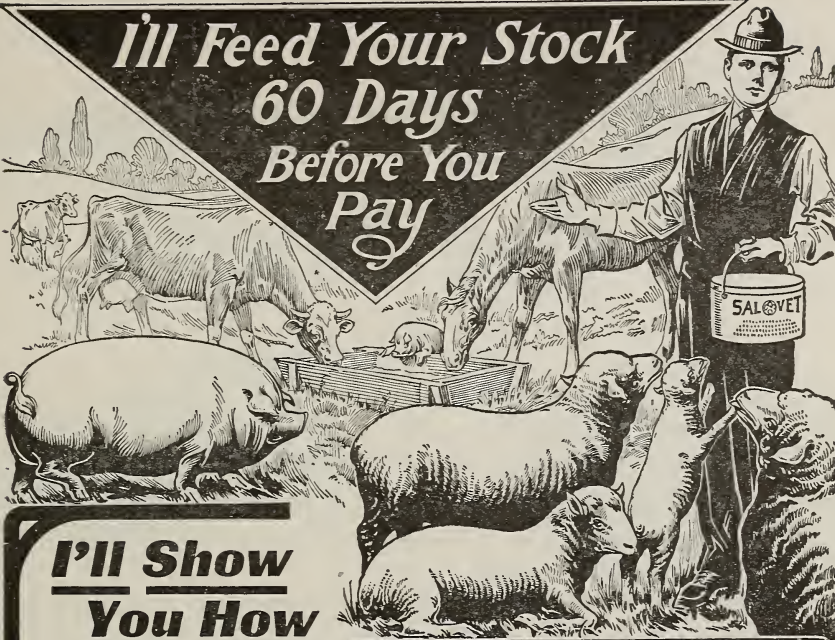


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"I write to say that I have been a free user of Sal-Vet ever since its introduction and find that it is a perfect worm exterminator, I feed Sal-Vet as I would salt and it positively does all that you claim for it. There is nothing within my knowledge as good and reliable or as cheap. It expels worms and puts stock in fine condition." **E. C. STONE, Peoria, Ill.**

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If you could open and read the letters I get, voicing the appreciation of hundreds of stockmen and farmers—who have taken advantage of my liberal offer, you would not delay a minute in sending me the coupon requesting enough Sal-Vet to feed your stock 60 days, especially when **I do it before you pay.** Now fill in the coupon, telling how many head of stock you are feeding—mail at once. Sal-Vet costs but one-twelfth of a cent per day for each hog or sheep.

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Prices: 40 lbs., \$2.25; 100 lbs., \$5.00; 200 lbs., \$9.00, 300 lbs., \$13.00; 500 lbs., \$21.12. No order filled for less than 40 lbs.

[42]

Ship me enough SAL-VET to last my stock 60 days. I will pay for the freight and report results in 60 days and will then pay for it if it does not cure you to cancel the charge.

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Sheep _____ Cattle _____ Hogs _____

Ag. S. 42

Attractiveness of the South

The South is drawing the interest of the nation like a magnet. The National Department of Agriculture says:

“The South is the Realm of future prosperity. The Southern States cover one of the richest areas of undeveloped agricultural wealth in the United States.”

FLORIDA produces more phosphate rock than all of the other states combined and the manufacturing plants have kept pace with the development.

Of Florida's soil possibilities, the Department of Agriculture says:

“The semi-tropical climate of Florida gives rise to agricultural conditions, existing in no other humid state. Florida produces the most delicate fruit and vegetable crops in the dead of northern Winter.”

THE PIEDMONT REGION—High, healthful, and pleasant, through the Carolinas, Georgia, and Alabama, containing many actively growing communities, one-half of the cotton manufacturing spindles of the Nation and intelligent cultivation of the soil—presents desirable and attractive opportunities for the investor and the homeseeker. Hydro-electric development of great magnitude—construction of interurban lines—varied manufactures—add to the interest and value of this splendid area.

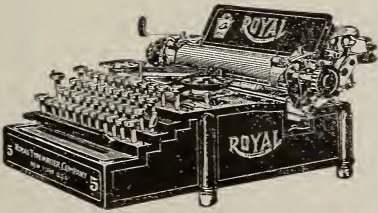
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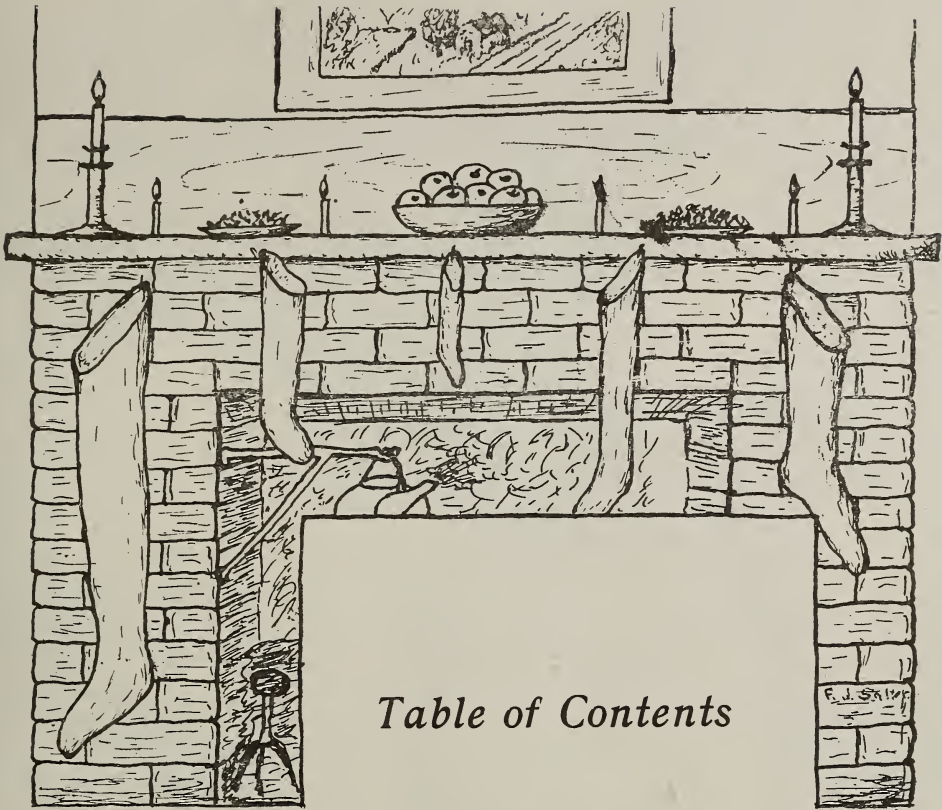
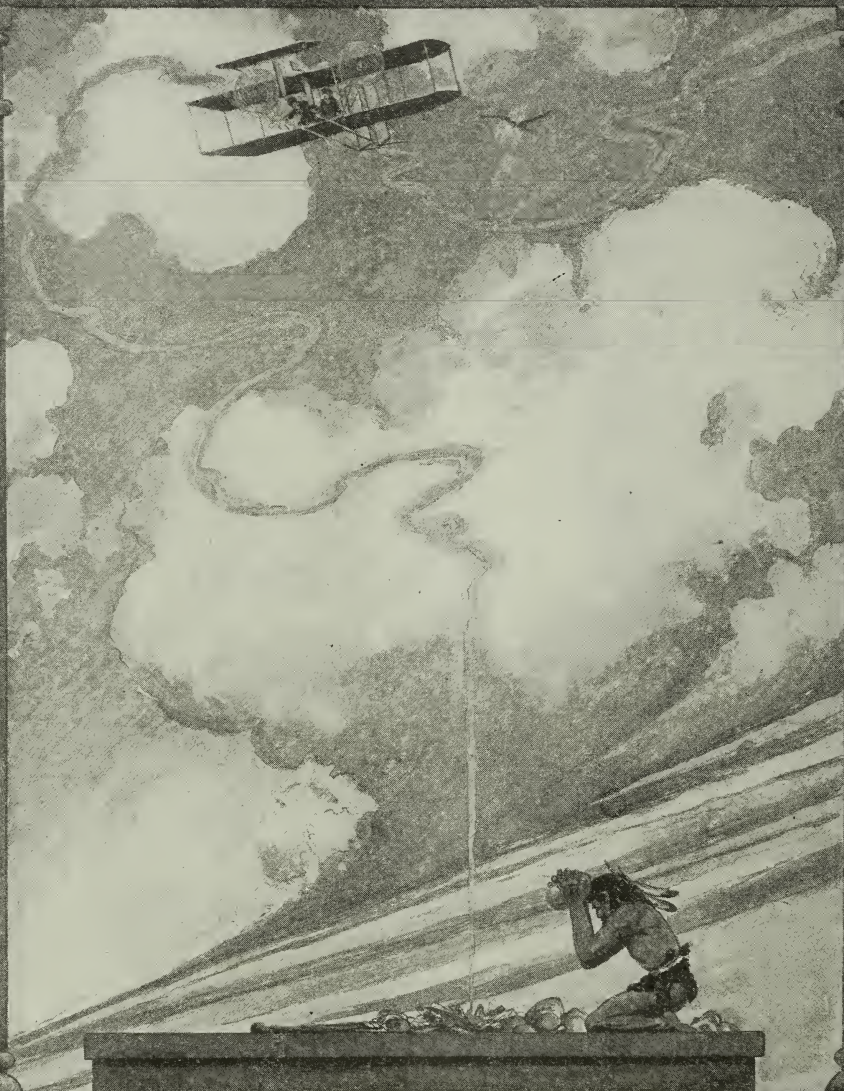


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PROGRESS



¶ Every great task is done at the cost of great effort, and geniuses are merely men of action who have the will to concentrate, the power to labor and capacity to endure.

THE AGRICULTURAL STUDENT

Vol. XIX. OHIO STATE UNIVERSITY, COLUMBUS, DECEMBER, 1912 *Number 4*

Exploit Ohio

A. P. SANDLES
Secretary of Agriculture, State of Ohio

THE virtues of Ohio should be announced.

Ohio's agricultural opportunities should be advertised.

Ohio's agricultural resources should be conserved.

Ohio's lands have a rising value and are a good investment.

Ohio has more cheap lands that can be made productive than any state in the Union.

Ohio is a good place to live.

Ohio has been sadly indifferent to the benefits of boosting herself. Many of its beauties and glories are yet undiscovered even by Ohio people.

An inspection of the census reports discloses the fact that those far western states have increased their rural population while Ohio has decreased. The Far West is always busy, never missing an opportunity to sing its own praises and paint beautiful word pictures of golden profits and golden opportunities.

By neglecting to labor in this direction, Ohio lost in population in the last decade an average of eight people in every township outside the cities.

It pays to advertise.

A review of rural social life conditions shows that the Far West has improved theirs, while in Ohio they have declined.

The glib-of-tongue land promoter is evident in Ohio. Thousands of our

people have been lured away to lands where large crops and large profits existed only in the imagination of the well-paid land promoter.

Ohio is diversified.

Almost every product needed for man's growth and comfort can be produced. Ohio could more nearly prosper with the Chinese Wall around its border than any other state. It is a land where the following industries are making giant strides and returning good dividends on the amount invested:

1. Fruit growing.
2. Canning industry.
3. Sugar beet culture and factories.
4. Milk condensers.
5. General dairy products.
6. Cabbage culture and krout production.
7. Tobacco growing.
8. Celery and onion crops.
9. Alfalfa.
10. Potato culture.
11. General truck farming.
12. Improved live stock.
13. Cereal production.
14. Wool and poultry growing.

Ohio has the advantage of the best market centers.

Ohio has the advantage of best transportation facilities.

Ohio has the advantage of being the gate-way between the East and the West, the North and the South.

Ohio has the advantage of being with-

in two hours' ride of one-third the population of the United States.

Ohio has the advantage of a climate conducive to the production of all general crops.

Ohio is not one-sided but can exploit many virtues.

Ohio can make garden upon almost any of its acres.

Ohio has set out to rebuild its rural life.

Ohio has had its period of transition and now enters upon a new era. Its universities, colleges and schools are coming to adjust themselves to the practical, sensible sides of life.

The city and country have begun to shake hands and recognize that their interests are mutual.

Attention of big men in business is turning toward agricultural production and better farming. The man off the farm is ready to go down into his pocket to help the man on the farm to do better farming. The signs of the time are good when public spirited busi-

ness men will contribute from their own money the sum of \$1500 to support and promote the Boy's Corn Growing Contest.

The Ohio spirit is new and permeating.

The Ohio spirit is a great asset.

The Ohio spirit is the forward movement in agriculture and better social conditions and better church and social conditions.

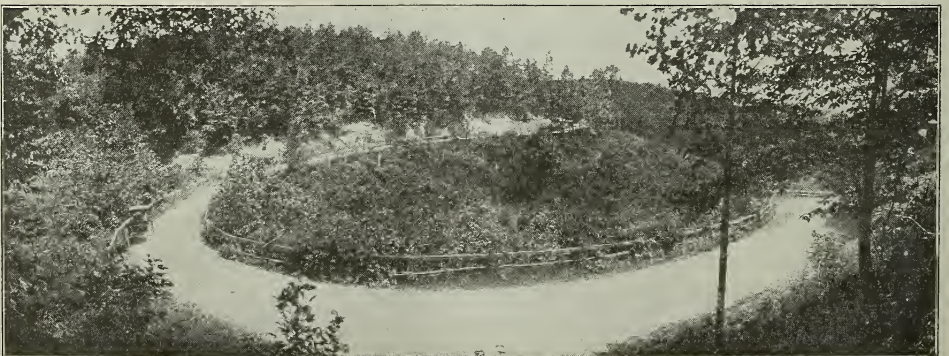
The Ohio spirit is for better roads, more attractive farm homes, more household conveniences.

The Ohio spirit is making Ohio a better place to live.

The possibilities of one acre of dirt are being discovered \$1000 and often \$2000 worth of produce have been taken from 160 square rods of Ohio dirt.

The acres will grow in value; and the men and women will grow better as well as richer.

The signs of the times are good when the College of Agriculture outnumbers every other department of Ohio's great State University.



HORSESHOE BEND AT IRONTON.

Making Good with an Ohio Dairy Proposition

THOMAS P. WHITE, '07

DURING my last year in college I began to believe there was an opportunity for a young man upon the farm. I remember one evening Mr. M. O. Bugby of the Ohio Experiment Station and myself spent three or four hours together calculating the amount of money we could make out of a dairy farm. By the time we had finished we thought all we would have to do would be to take in the money. That is what we all would like to do but I would say that we hadn't had any practical experience and misjudged the business to some extent.

As I consider the positions offered to agricultural graduates they look attractive and tempting, but the man on the farm, whether it is a dairy farm or general farming or whatever kind of farming he may pursue, has some advantages over the man in the position. First the man who accepts a position has no fixed place of residence. If he loses his position it often means that he is forced to make new friends and sometimes means that he must begin life anew on less salary, while the man on the farm is building for himself a home and a citizenship which he can make whatever he chooses according to his spiritual, mental and physical abilities.

Secondly: He is his own boss.

Thirdly: He will have a business that will grow and develop, is safe and will last as long as the ages.

I would not advise everybody to return to the farm but a student who is favorably situated for returning is making a mistake if he doesn't take advantage of the opportunity. He will not make as much money for some little time but there is an opportunity for any

one who has the nerve and stability to start right and wait for developments.

The actual starting of a dairy farm is the most important feature. If I had started differently I would have had a great deal more valuable plant today. Success in the dairy business depends upon the dairy cow. The dairy business is not a small business. The expenses are heavy and it requires a very good animal to give returns on the investment. Feed will cost about \$65 a year and your help will be about \$35 per cow per year. The cow that used to be considered a very valuable animal or the cow that produced 300 pounds of fat in a year would only pay for her feed and pay expenses. It will not pay to consider for a minute the average cows of Ohio which only produce about 150 lbs. of fat even as a basis for the founding of a herd. The offspring obtained by the cross of a pure bred bull on these cows would simply be a waste of time. I remember my first heifers obtained from such a cross. They looked very very much like the common Texas steers and I sold them for \$20 a head when they were past a year old.

If I had some 300 pound cows already in my herd I would grade up my herd by means of the bull, but if I was just starting a herd I would place into that herd the highest class cows I could buy if I simply had to start with one animal and slowly add others to the herd. It will pay to borrow money to buy the best animals, if they are bought worth the money, but I would hesitate to borrow money to invest in an ordinary animal. I hope that anyone who is contemplating going into the dairy business and who may chance to read this article

will take this advice. Don't think you are too poor to own the best. If you are short of funds that is a good reason why you should own the best animal you can buy. An animal that will produce 400 pounds of fat will produce enough fat at 30 cents a pound or market price, over and above the cow that produces 300 pounds of fat, to pay the interest on \$500 at 6 per cent or \$30. Now it is reasonable to suppose that the good cow will reproduce herself at least once during her life time. I have one female that together with her offspring has produced nine head of females and the cow is not quite seven years of age. If your cow only reproduces herself once you have a perpetual machine, which will pay the interest on \$500 every year. You are absolutely safe in your investment and if she reproduces herself 5, 6, or 7 times and her offspring does as well your chances of gain are enormous.

It is possible to keep a cow on an acre of ground by the silage system. If the farm is equipped with the class of cattle I have just described each cow would produce from \$125 to \$150 per year or per acre in butter fat. This would not take into consideration the value of the offspring of the animals which would amount to from \$20 to \$50 per animal.

A farm of this sort would easily make \$20 per acre net profit over and above all expenses. I mean it would pay 5 or 6 per cent. interest on the investment in the farm, cows and equipment and yield \$20 per acre profit. This is a conservative statement and I can refer to a man who is practically doing this thing. He pays his help \$30 per month, free house rent, garden and meat, pays for new machinery, takes out 5 per cent. interest on the investment, and has \$1600 left from his gross earnings.

I feel that the dairy business is yet an undeveloped business. It is true that we have developed the dairy cow beyond our expectations, that we now need men who are not only feeders but scientific farmers, who will take care of fertility and make the land produce to as marvelous an extent as our good cows.

This is an opportunity for some one. First, select a high class producer, next adopt a system of intensive farming, and then by keeping a cow to the acre place back upon every acre of your farm all that cow consumes. The increase in production of the farm will be as great as the milk yield of the 14 ton Holstein cow. There will be 12 to 14 tons of manure placed upon every acre each year.

The first farmer was the first man,
and all historic nobility rests on possession and use of land."—Emerson.

Southern Opportunities

J. A. PRIDE
Seaboard Air Line Railway

THE vigorous investigation of new opportunities by the intelligent and progressive youth in any nation has ever been the guide for capital, and the latter has flowed into the channels of investment pointed out by individual investigation of the thinking power of the country.

The South Atlantic area, from the

Agriculture's Year Book for 1911 contains the following statement of fact, "The South Atlantic States cover one of the richest areas of undeveloped agricultural wealth in the United States." The statement is based upon investigation and entitled therefore, to full credence in the consideration of the development possibilities.

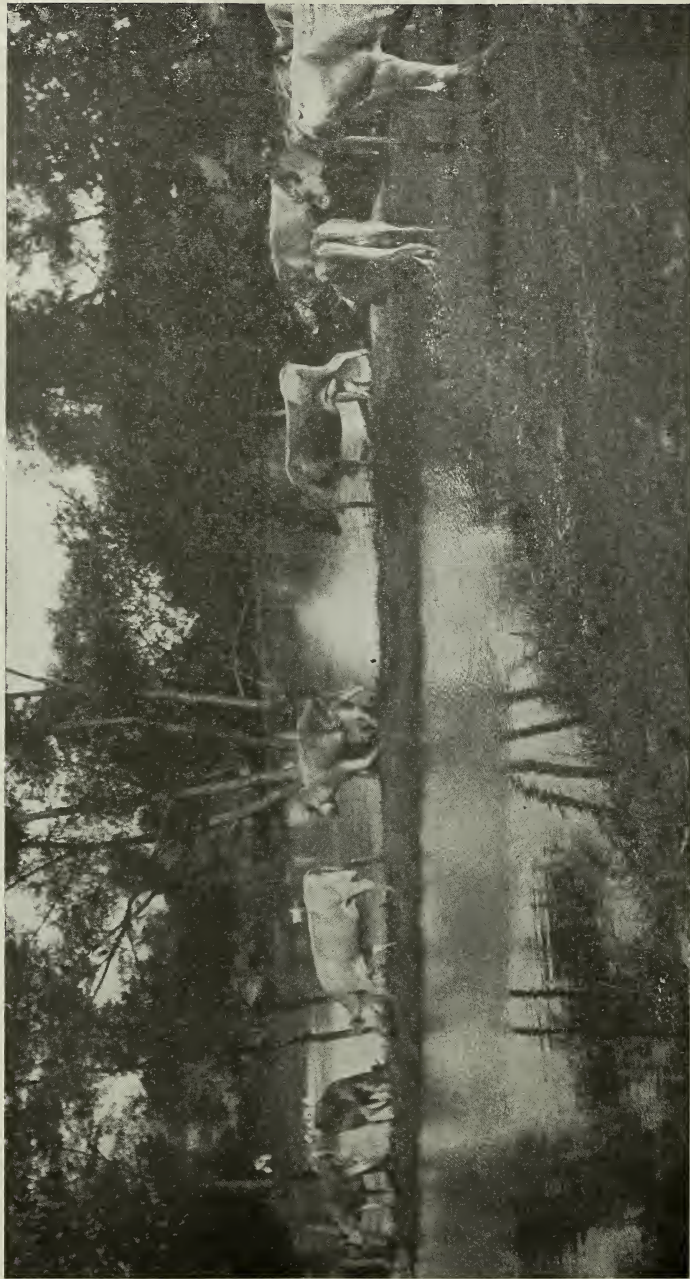


PEANUTS—THE CROP IS AN EXTREMELY PROFITABLE ONE WHEN PROPERLY HANDLED.

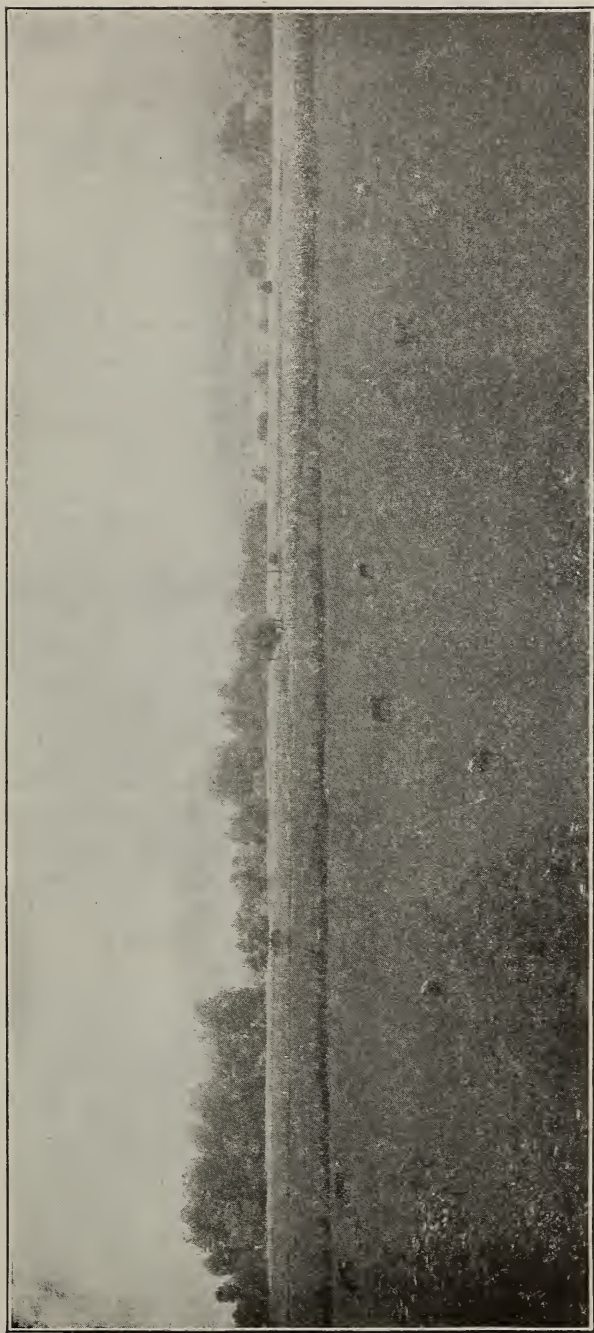
Virginia Capes to the Gulf of Mexico, presents an attractive and wide field for individual endeavor and promulgation and progress of new ideas, which correctly founded, will mean the amplification of the already upward progress of the industrial and manufacturing conditions, which exist here as in no other part of the United States.

The United States Department of

The development of hydro-electric power in the Southern States, which has assumed proportions in the past eight years of considerable magnitude, is one of the strongest factors for consideration. It bears first directly upon the manufacturing interests. The supply of reasonable priced power has given added interest to the present manufacturers and points clearly to the need of



ON A SOUTHERN DAIRY FARM.
Good Water, Fine Forage and a Genial Climate Make Southern Dairies Profitable.



A SCENE FROM A FARM IN THE BREVARD REGION, NORTH CAROLINA.

further development of manufacturing interests.

The South with her production of 15,000,000 bales of cotton uses 5,000,000 and sends the other 10,000,000 to the continent. In certain portions of the South the cotton manufacturing industry has had wonderful growth. The State of South Carolina alone has nearly three and a half million spindles, or one third of the total of 11,000,000 allotted to the entire South. The production has been largely of the coarser fabrics, but in many instances the finer fabrics are being experimented with. Given a climate, equable the year round with no extremes of heat or cold, ample labor supply, cheap power, and ready transportation to the markets of the world, there can be no question of the opportunities existing here for the great upward growth in the manufacture of finer cotton goods fabrics in the Southern States. Around the City of Charlotte, N. C. within a radius of 100 miles are located 425 cotton mills operating five and a half million spindles. Distance from Charlotte to Havana, Cuba, is 1,000 miles; distance from Charlotte to Savannah, Ga., is 265 miles, with only 1830 nautical miles to the mouth of the Panama Canal. The South American States with population from fifty to sixty million people are large buyers of cotton goods, but purchases go in a great measure to the continent. Here exists an open door for the great progress of this industry, and it is confidently predicted that the cotton manufacturing industry will receive as much benefit from the opening of the Panama Canal as any other one in the United States.

The development of the hydro-electric power has opened a way for the construction of electric trolley systems, a

transportation adjunct which has not been possible before. Radiating from Charlotte, N. C. there are 200 miles of this new class of transportation service under way, and its opportunities for further development are yet before us.

The influence which reasonable priced electric power has is not gauged entirely by its known uses for manufacturing concerns, electric railways, lighting, heating, etc.; its influence has had a peculiar effect on agricultural conditions. The census reports show that in the communities having the largest number of cotton mills, the greatest area of land is under cultivation, the reason being apparently, that the land owner found it profitable to cultivate every acre to accord with the created market at his door.

The agricultural conditions in Florida were attracting very wide attention.

People who live in a climate where the crop growing season is curtailed to 100 to 120 days first read with credulity, the statement of careful investigators that south Florida has a crop growing season of 348 days, and that, too, coupled with a climate that is healthful and desirable for year round living. The U. S. Department of Agriculture's Year Book for 1911 says:

"The semi-tropical climate of Florida gives rise to agricultural conditions existing in no other humid state."

"No eastern State receives the same amount of winter sunshine."

"Florida produces the most delicate fruit and vegetable crops in the dead of northern winter;" and many instances can be shown of the verification of these statements.

Sugar cane ratoons and reproduces itself for a period of years in the semi-tropical climate of south Florida. Many fertile acres open to the cultivation of

this crop is attracting the attention of the thoughtful, who realize that sugar production in the United States must soon be given more careful consideration. The value of sugar imports which we now buy from other countries is estimated at \$100,000,000 annually. Given a climate and soil capable of producing a cane showing as much sugar content as Cuba and Louisiana, Florida is attracting the attention of the thoughtful with a view to the growth of large areas of cane for the manufacture of sugar. The opportunity here is very great and must give employment to many people who are seeking homes in a climate where outdoor work is possible every working day in the year.

The production of grape fruit and oranges in Florida is opening up most excellent opportunities, which are fast being taken hold of by new homestead seekers. A grape fruit tree will bear a crop in three years, and in four and five years reaches maturity.

Florida stands first today in phosphate rock production. Her seaports, Fernandina and Tampa, are adjacent to the phosphate rock fields, and offer opportunity for the exportation of such of this production as foreign countries demand. Railway lines offer, in the

South Atlantic area, the distribution to the interior manufacturing interests which have attained great proportions.

Investigations are continually being made for new fruits and vegetables in the semi-tropical climate of Florida, and many new plants are being introduced. The field is so wide for this opportunity that it cannot be described in a short article, but the results of experiments have been uniformly successful, and many new vegetables and fruits are being produced.

Cattle raising and the dairying are successful and profitable undertakings, the soil producing excellent hay and forage crops in great abundance at reasonable cost. The demand is increasing rapidly and many cases are now met by the bringing in of large quantities from distant States.

The Irish potato, that most universal article of food, finds a soil and climatic condition in Florida essential to rapid growth and early maturity. Instances are recorded of planting commenced February first and marketed April first.

The large areas of standing timber, pine, cypress, poplar, gum, oak, hickory and cedar offer unrivalled opportunities for the increased manufacture of furniture.



POULTRY COMBINED WITH FRUIT GIVES GOOD RESULTS.

Agricultural Opportunities of West Virginia

C. R. TITLOW

Director of Agricultural Extension, West Virginia University

A STRANGER traveling by rail through West Virginia would see hundreds of mines and thousands of oil and gas wells, lumber mills, narrow valleys and steep hills or mountains. From his observations he will think that the entire state is given to mining and lumbering and that a very small area is used for agricultural purposes. It is true that there is a great amount of waste land in the state, as far as agriculture is concerned, and also that hundreds of thousands of acres are practically undeveloped, but as compared with manufacturing, agriculture employs twice as much capital and many more men, and as does the mining industry. Agriculture employs more men and the products are equal to coal and oil. The taxable wealth of farm lands and buildings forms about one-third of all real estate and is nearly equal to that of the public utility companies of the State. The greater portion of the farm land is quite hilly but the soil, if properly tilled, is wonderfully productive.

Live Stock.

In many counties of the state blue grass and white clover grow very luxuriantly and beef cattle are raised and fattened by comparatively little labor or grain feed. The cattle browse over the hills during the winter and are fed some hay in the fields from small stocks which were placed in the meadow where the hay was cut. Some of the cattle become very poor during the winter but soon fatten on the blue grass in the spring, and in the fall are in condition to ship to the London markets. Many of these blue grass hills would furnish excellent pasture for large dairy herds

but the condition of the public roads in most sections of the state is such that dairying can not be pursued profitably.

Sheep raising is a very profitable industry. There are hundreds of farmers in the state who realize one hundred per cent. on the money invested in their flocks. The sheep run on blue grass pastures nine months of the year which greatly reduces the cost of their feed. Undoubtedly no state in the Union is so well adapted to the production and sale of high grade poultry products as is West Virginia. Its climate is most desirable for poultry raising. Its hills, mountains and valleys shelter the flocks from winds and storms and permit them to live an out-of-doors life. The soil is well drained and suitable for combining fruit growing with poultry raising. It is very near to large eastern markets and for the small producer the numerous mining and manufacturing towns all over the state furnish very profitable markets. The average number of fowls per farm is 37 as compared to 68 in Ohio. There is great need for an increased production of poultry products in the state.

Horticulture.

The horticulture production of West Virginia has become one of the greatest agricultural assets. Fruit lands, developed, are abundant, and the soils, climate, atmosphere, etc., are so ideal for fruit production that the large amount of fruit produced is unsurpassed in quality, flavor, color or keeping quality. We now have almost five million apple trees that are nearing fruit and about three million that are from two to eight years old. The largest single apple orchard consists of five hundred and sixty acres.

The Twin Mountain Orchard, which consists of both apples and peaches, covers eight hundred acres. In 1910 the yield amounted to ten million, three hundred twenty-nine thousand bushels. This exceeded the total yield of Washington, Oregon, Idaho, Wyoming, Colorado, Montana, Arizona, Utah, Nevada and New Mexico. The average selling price was fifty-four cents per bushel. The same year the average selling price of the large crop of peaches was \$1.12 per bushel, as compared to eighty-five cents in Georgia. Growing seed potatoes on the higher altitudes is at this

sixty-five per cent. of the food of the crops, vegetables, etc., should be greatly developed, as statistics collected by the experiment station show that from October 1907 to October 1909 thirty four million dollars worth of food stuffs, exclusive of meats, was imported into the state. Adding to this amount the cost of the imported fresh and cured meats, it would total fifty million dollars. In other words, the state imports as much food stuff as it produces and at least cities is imported. Nearly all this vast amount might be raised in West Virginia.



A WEST VIRGINIA HILLSIDE ORCHARD.

time receiving considerable attention due to tests of seed potatoes from several states made by the United States Department of Agriculture. In the one test West Virginia seed surpassed in yield the seed obtained from Maine, Vermont and other northern states. In another test it was surpassed only by the seed from Maine.

Farm Crops.

Several counties of the state are adapted to the raising of farm crops but this phase of agriculture is of minor importance as compared to live stock and horticulture. However, the raising of

Summary.

In conclusion, we desire to state that while our lands are very rough and the price per acre is comparatively high, the roads very poor, shipping facilities but fair, yet we believe that West Virginia offers reasonably good agricultural opportunities to the young man who is not afraid of a great amount of hard work and who really desires to live on a farm. We are sure that the commercial, political, social and educational progress that is so rapidly advancing within the state, indicates a prosperous future for the West Virginia Farmer.

Dairying in the Prairie Belt of Mississippi

H. B. GURLER
Macon, Miss.

I NEVER get tired of studying this belt of prairie country in N. E. Mississippi. A strip of country ten to twenty miles wide and extending from about Oklahoma, southeasterly to the Alabama line and on across Alabama to a point south of Montgomery about 15 miles. The records of Noxubee county show transfers of these lands before the civil war at \$75 per acre and when we stop to think that the average price of land in northern Illinois at that time was less than half that price, it sets a person to thinking how this could be so. The truth is it should not be so as nature did as much for this prairie country in the way of length of season for growing crops, and also in the rainfall as we have an average of 51 inches and it is well distributed. These old plantations before the war were cultivated well and produced bountifully of everything that was planted. It is remarkable how this soil has stood abuse so long as there is land here that has grown cotton over seventy years in succession and never been fertilized. It certainly is a very enduring soil. This prairie section is all underlaid with Selma Chalk rock, a rotten limestone that can be cut like chalk with a knife and contains about 85 per cent carbonate of lime. In some parts of the country the rock is in a harder state and is used for road purposes.

With our rainfall we need to drain these lands though we have good surface drainage, as a rule sufficient so there is very little stagnant water on the prairies. When we tile drain these lands and keep live stock and farm as the good farmers do in the north we are certain to grow more per acre than is

grown in the north as we can grow two crops in twelve months, i. e. a crop of wheat or oats sown in October and harvested the last of May and it is followed by a crop of corn, cow peas, or soy beans. Of course it is not wise to try to take off two crops annually until the soil is given fair treatment.

With the same treatment we can grow as much corn per acre here as is grown in the north. The prize won by a member of the boys' corn club in this county this year was with a yield of 112 bushels per acre. Nature did so much for this country that the people have done very little in the way of soil building.

This is the best grass country that I have ever seen; there are pastures in my neighborhood that have carried a mature animal per acre the past summer. I have never seen stock get in better condition on pasture than they do here. We have bermuda, lespedeza, (Japan clover), white clover and Johnson grass, for our main pasture grasses. Alfalfa and red clover do well here, some parts of the county are natural alfalfa lands the soil needing no treatment except to make a good seed bed for it. This section is certain to become as good a stock country as there is in the United States. One of the greatest surprises that I met when I came here five years ago was the good grade Jersey cows I found here, nearly every bovine animal showing Jersey blood, even the oxen that are worked in the lumber camps. I soon learned that there had been some good Jersey breeders here in the past and they certainly left a plain and valuable trail. We bought a dairy of these grade Jersey

cows two years ago that the past summer paid us \$10 per cow per month during May, June and July, on grass alone, the pasture being set in lespedeza, Johnson grass and bermuda. We sold cream receiving 80c per gallon for 20 per cent. cream. Now we are working for a creamery at Macon and have good prospect of success as we have discovered there are about 1000 cows in twelve miles of Macon.

We are building hard roads now and the country will probably build about 40 miles of them. These prairies are as healthful a place to live as the northern prairies. We have no higher temperature here in summer than in the north but have a longer period of hot weather as it begins earlier and stays later; our nights are more comfortable than in the north, our winters are short and mild. We have rape pasture for our hogs all winter, as a rule, as it seldom gets cold enough to kill it. Hogs can be grown here at one cent per pound less cost than in the north and yet the south

buys northern meats. Sheep do well here. We have the lambs dropped in December before the cold weather comes and they do well. When we get to business we can be in the market with early lambs at the head of the procession.

This is to become as good a beef producing country without doubt as it is for growing mules and horses. Keep your eyes on this prairie country as you are surely going to get some surprises from here.

We are in the work of eradicating the cattle ticks, many of the farms being now free of ticks but some farms are not yet free; this work is simple and inexpensive, the vital point being to hold one's grip on the work and not let the date of dipping slip by and guess that it need not be done this time. Cattle get fatter on these pastures than I ever saw them in Illinois on pastures. The possibilities here have been growing on me ever since I came here five years ago.



A SOUTHERN DAIRY HERD.

Agricultural Opportunities of the Southeast

M. V. RICHARDS
Southern Railway

THE Southeast, as referred to, is that portion of the South lying east of the Mississippi River and south of the Ohio and the Potomac. It has a land area of 299,453,000 acres, of which 82,710,000 are improved and 83,000,000 are unimproved farm lands. There are today probably 100,000,000 acres in this section available for homeseekers, a very large proportion of the most profitable land for general farming, for fruit growing, stockraising or for special agriculture of some kind. The location of the Southeast should make these unutilized acres, as well as the improved lands open to purchase, much more desirable from the farmer's viewpoint than those in many other sections, even where the latter have a more fertile soil. This location, close to the great population centers and markets of the North and East, bordering on the South Atlantic and Gulf seaports, insures profitable markets for the surplus product of every Southeastern crop, and would make farming in the section highly profitable even were there no good markets within the region.

The lands of the Southeast range in price much below those of other sections, and yet they are intrinsically worth as much or more than more costly lands in the North or West. For instance, lands in the Southeast which will yield four or five tons of alfalfa a season, worth \$15 to \$20 a ton in local or nearby markets, can be bought today at from \$25 to \$60 an acre, while such lands in other sections would command \$100 to \$200.

The climate of the Southeast is a great asset to the farmer. It enables him, on the same kind of soils or on less

fertile soils, by the same good cultivation, to make much larger yields than are possible in colder sections. It also permits the raising of two to four crops a year on very much of the land. In Alabama, a crop of wheat and a crop of legumes in a twelve month returned \$53 an acre. In North Carolina a crop of winter wheat and a crop of corn were grown on the same land in one year. In practically the whole Southeast the climate, with its long growing seasons and its wealth of sunshine, is not only an asset to the farmer, but it is such as is pleasant and healthful, and permits the making of the most agreeable homes.

Reference was made above to the value of the location of the Southeast in connection with outside markets. The home market for all Southeastern products assures the best success for the good farmer, for the man who will properly cultivate his land and who knows how to grow the crops needed. The vast water power in the mountain and Piedmont sections, the extent of the producing coal areas, the great beds of iron ore and the splendid supply of other raw materials, together with other favorable conditions have within the past 20 years made the Southeast a great industrial region. Manufacturing is advancing there at a more rapid rate than in any other section. The advantages there make it certain that this will continue to be the case for at least years to come. The factory towns and the cities are growing at a rapid rate. They furnish the best of markets for all kinds of farm products, and for a large proportion of their supplies are now compelled to look to the North and West. A hundred million dollars are spent for

supplies brought in from the outside, supplies which could be as well produced in the immediate neighborhood of the towns and cities. These include meats and provisions, flour, dairy products, hay, feed stuffs, late cabbages, potatoes and other vegetables. A Birmingham, Alabama, paper recently stated there was room near that city for 2,000 new truck farmers.

The variety of crops which can be profitably produced in the Southeast gives the farmer the best of opportunities for diversified or special farming. As large crops of wheat can be grown as in any section, larger crops of corn per acre can be made, great yields of hay are common and oats, rye, barley, brown corn, sugar cane, and tobacco are staple crops. In cotton the South has a practical monopoly. Northern farmers who have settled in the Southeast have proven most successful as cotton growers. Every acre can be made to produce at least 500 pounds of lint cotton, and such production will give the grower a large profit. The Southeast grows all kinds of vegetables and for a large part of the year supplies not only itself but the North with the fresh product. In the growing of fruits the section is equally prolific. The kinds produced range all the way from the citrus fruits to the splendid apple of the Southern Appalachian region.

There is room in the Southeast for 100,000 farmers, there is opportunity for them in any line of farming, they can obtain good, profitable lands at the lowest cost in America and usually on easy terms; they will have the choice of many kinds of country from the beautiful mountain sections to the level lands of the coastal region, they can locate near good towns and cities, near good railway facilities, often along the

best improved country roads; through good farming they can produce the largest crops at the lowest cost, for which they will find ready markets at the highest prices, and they can readily and quickly build up their farms into the most valuable places.

There is room here to mention just a few of the special opportunities offered today to the farmer who will locate in the Southeast.

Thousands of cars of hay are sent to the Southeast every year from Ohio, Indiana, Illinois, Wisconsin, Kansas and other states. The South grows timothy and blue grass in its Northern sections, and grows alfalfa in practically its whole area, while special districts are more prolific than the best alfalfa lands of Kansas or other portions of the West. It has in its orchard grass a hay crop that is preferred by animals, and it grows the largest variety of other grasses and of other forage crops. Hay is a cheap crop to produce. Two to five cuttings may be made each year, and in few cases will the ultimate market for the Southeastern haymaker be over 100 miles distant.

The United States must produce more live stock, or soon be in a position where it must look to importations from other countries for a portion of its meat supply. This increase in live stock production must come largely from the farms rather than the ranges. Nowhere are the available lands for the stock raiser to be found so advantageously located as in the Southeastern States.

In every district in other sections of the Southeast the available pasturage and the wonderful variety of nutritious grasses and valuable forage plants available give the very greatest advantage. In addition to alfalfa, blue grass and timothy in Kentucky, Tennessee,

Virginia, North Carolina and Northern Georgia and Alabama there are clovers, mellilotus, a near relation of alfalfa, lespedeza or Japanese clover, Bermuda, herd's grass, Johnson grass, sorghum, peanuts, cow peas, the vetches, soy beans, rye grass, millet, and many other good pasturage and food crops. Cotton seed meal is to be had at low cost for feeding. The long grazing seasons give a very great advantage. A good winter cover crop is possible everywhere and grazing may be had at least ten months in the year. Pork and beef may be made as low as 3 cents a pound. Winter feeding is now becoming a large industry and is proving most profitable.

The opening for dairy farmers is pronounced. The last census figures show that nine Southeastern States sent to the North and West in 1909 over \$32,000,000 for dairy products. Every dollar's worth could be produced in the Southeast at less cost than in the regions from which it came. All the conditions of good pasturage, cheap food stuffs, pure water and healthful climate are found. The demand for dairy products is increasing right along. A dairyman in North Carolina recently reported that for nine months from an average of thirty-eight cows milked his receipts were \$6,414 and his profit \$3,005. Milk was sold in bulk at 25 cents per gallon, cream testing 20 per cent. at \$1 and butter at 35 cents a pound. A Noxubee County, Mississippi, dairyman, formerly located in Iowa, estimates his annual profit, on 150 cows, at \$72.80 for each cow.

The Southeastern fruit regions are not surpassed anywhere for the quality of fruit grown. They offer more opportunities to growers than others because the cost of good orchard or vineyard land is so much lower than in other

good fruit sections and because they are so favorably located as regards markets. In Virginia, North Carolina and Northwestern Georgia this year, despite the large apple crop of the country, orchardmen received from \$2 to \$3.50 for boxed apples. Profits of several hundred dollars an acre are fairly common, where the orchard has proper care. The finest apple lands may be purchased at from \$25 to \$100 an acre, in some cases at \$10 or \$15. In the vineyard region around Tyron, North Carolina, growers this year received \$1.35 a crate for their table grapes, in 1911 from \$1.30 to \$1.50. The markets were from Washington, D. C. to the Gulf. Not enough development has yet been made to warrant entering the North, but the grapes ripen at a date early enough to secure a large market in that section. Experts have pronounced grapes grown in this region the finest flavored in America, if not in the world. There are some thousand acres in that immediate section available for vineyards. Like opportunities are presented in growing cherries, in the Southern mountain region, and in other fruits.

These are only a few of the special agricultural and horticultural opportunities which offer great advantages. They but emphasize the opportunities which are open to the farmer who will locate in the Southeast. This section needs thousands of good farmers, such farmers as will properly cultivate their lands, conserve their soils, produce the right kind and quality of crops. To such farmers it can be confidently stated that for their investment, labor and skill the very highest prosperity will result. A Southeastern farm home, properly selected, is not only highly profitable, but for the family is one of the most attractive.

Opportunities of the East

W. E. QUINN
E. A. Strout Farm Agency

ANY man who is planning to engage in the business of farming, or any established farmer who is contemplating a change from his present location, will not be dealing fairly with himself if he neglects to investigate the Opportunities of the East.

The Real Opportunity in America today is on these Eastern farms. Land values are low, the rate of production higher than in any other section of the country, the best markets are close at hand and prices for farm produce are higher than ever before.

The abandoned farm of the East is a

investigation disproved the absurd stories of abandoned farms and worn out soils and he declared that New York State farms offered the greatest opportunity in this country today.

"Hereafter" said he, "when a young man with a few hundred dollars asks my department in what section he can engage in farming to the best advantage, I shall ask that he be directed to the possibilities existing throughout New York State. There you have one of the most beautiful sections for farm operations, for homes, to be found in this great country.



MORE THAN 500 BUSHELS OF POTATOES PER ACRE. MONMOUTH COUNTY. N. J.

myth which exists only in the mind of those who do not know the East. There are no abandoned farms; but there are neglected farms in plenty—farms where the sod has not been turned in a score of years or more and where the once fine buildings are falling into decay. It is this shameful neglect of some of the best farming land in the world that has given rise to the widely circulated stories of abandoned farms in the East.

Secretary Wilson of the United States Department of Agriculture recently made a personal inspection of a large portion of New York State to satisfy himself as to the true conditions. His

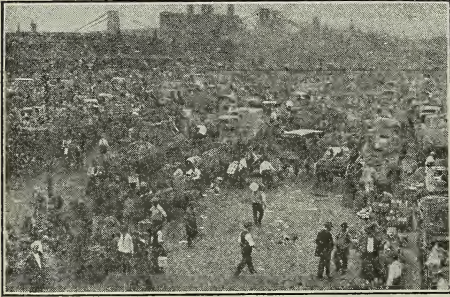
"I am astonished. It is far beyond my understanding why the people have neglected these farms, these rich valleys, well timbered hills, with numberless streams of splendid water on every hand—ideal for grazing and stock raising, for the production of fruits and dairy products.

"You have good schools, churches, substantial towns and intelligent people and some of the best and largest markets in the world at your very door.

"Your soils are not exhausted; they are strong and with few exceptions are as productive as they ever were."

What Secretary Wilson has said of

New York is in a large measure true of all the farming states in the East. But as M. C. Burritt, Scientific Assistant in the Offices of Farm Management of Secretary Wilson's Bureau says, conditions are rapidly changing for the better. "The movement toward the West and the wonderful development of the large



EASTERN FARMS HAVE GOOD MARKETS
NEAR AT HAND.

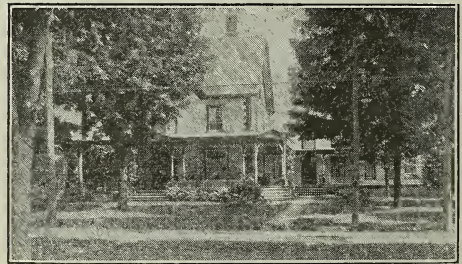
Eastern cities and manufacturing centers during the past twenty years have fostered and encouraged change and neglect of farming interests in the East." Says Mr. Burritt: "In fact, many of these changes may be said to be the direct results of this movement, WHICH HAS NOW NOT ONLY REACHED ITS LIMITS, BUT HAS TURNED BACK EASTWARD. DISORGANIZATION AND ABANDONMENT HAVE CEASED; REORGANIZATION AND RECONSTRUCTION HAVE BEGUN."

Young men who are flocking back to these fine old farms, attracted by the low land prices and the splendid opportunities offered by farming at the present time, are going about their business in the modern way. They are getting results. The farm of the East is in reality coming back to its own. Its rolling fields and fertile meadows under these modern methods of farming are producing crops that challenge the admiration of the world's best farmers. The verd-

ant pastures, watered by spring and brook and river and lake, provide an abundance of splendid forage for sleek and profitable dairy herds. Porkers of prodigious size are raised at trifling expense with the aid of a skim-milk diet. Thousands of sheep again are ranging over the Eastern hills; the wool and mutton are bringing small fortunes to the Eastern farmer every year.

And then there is the apple orchard. The old type of farmer in the East had very little faith in the apple as a commercial proposition. "Why, apple trees will grow anywhere," he would say, and he was content to "let them grow." He failed, wholly to appreciate that apples will **not** "grow anywhere" unless the conditions are right—that the delectable, indescribable flavor which has made the apple King of Fruits can be found in its highest degree of alluring deliciousness only in those apples raised here in the East, where in truth "apple trees will grow anywhere."

The Eastern farmer is beginning to appreciate his apple trees now. He is



GOOD BUILDINGS CAN OFTEN BE PURCHASED AT PRICES BELOW THE ORIGINAL COST

giving them some of the care they so richly deserve and they are responding wonderfully in return. As these better methods become more generally practiced and modern methods of packing and marketing are more generally em-

ployed, the Eastern orchards will supply the markets of the world.

Under proper management Eastern farms will grow astounding crops and when you consider that in the thirteen Eastern States there are 34,275,000 persons who must look to these farms for their food, you can see that the marketing problem is not a problem at all. Practically everything raised can be sold at retail prices. There are no long hauls to market, no big freight bills to pay.

Thousands of men who have taken up neglected Eastern farms and worked them with intelligence backed by ambi-

other equipment. That was only five years ago, but today Mr. Smith owns the farm with all its equipment, free and clear, has a substantial bank account and recently refused an offer of \$6000 for his farm.

Thomas Holt, who came from South Dakota, took up a neglected Eastern farm when it would carry hardly more than half a dozen cows. Last year he kept 130 cows and heifers and seven horses on 70 acres and sold 30 tons of hay at \$30 a ton besides. Mr. Holt's dairy pays him \$50 a day right through the year.

"The unequalled markets have much



NEW ENGLAND FIELDS OFTEN PRODUCE LARGE CORN CROPS. PRICES ARE TEN TO FIFTEEN CENTS PER BUSHEL HIGHER THAN IN THE WEST.

tion have made a competence for themselves. They have established homes of which they and hundreds of communities in which they are located are proud. The East is better because of these modern young farmers, with real red blood in their veins; and they are better men, more contented, more prosperous, because of the opportunities the East extended to them.

As an example of what can be accomplished, there is the case of J. B. Smith who purchased a run-down farm of 150 acres with buildings, near a large Eastern city for \$3300, with a cash payment of only \$350. He was obliged also to go in debt for horses, tools and

to do with the success of progressive farmers here" says Mr. Holt. "We have the best markets in America right at our door and within driving distance of my farm are six large manufacturing towns and cities. I am convinced that the same amount of energy and grit put into almost any farm here, as I know the Western man is capable of, will produce wonders. It is really astonishing how quickly Eastern lands respond to treatment and how readily they produce an abundance of everything for which there is always a ready sale at the best prices in the United States. On my farm and on many others we use all the improved machinery and implements to

take care of our crops, just as they do in the West."

Thousands of other men have done as well as Smith and Holt. Thousands more are doing the same thing today and thousands yet to come will find success and contentment and prosperity here in the East. The opportunity sure-

ly is here. With low-price productive land and high-price, nearby markets, there is needed only the **man** with ambition and enough practical knowledge to take full advantage of the most favorable combination of conditions that any farmer can have, anywhere in the world.

Agricultural Opportunities of the South

H. F. SMITH

Vice President Nashville, Chattanooga & St. Louis Railway

SINCE the knowledge of the author of this article concerning the opportunities for successful agricultural husbandry offered by the south in general is necessarily limited, his remarks are confined to the promising sections contiguous to the lines of the N. C. & St. L. Ry., with which he is affiliated.

This Company's lines intersect in a southeasterly direction the States of Kentucky, Tennessee, Alabama and Georgia, traversing as fertile a section as may be found in the entire South.

Tennessee can claim, perhaps, a greater variety of soils than any State in the Union, from the sandy mountain top to the rich alluvial soils of the river bottom. That section of Middle Tennessee known as the "Central Basin" embraces the most fertile region of the State, abounding in the celebrated Kentucky Blue Grass, and being peculiarly adapted to the growing of corn, wheat, rye, etc., to truck gardening, and to the raising of fine stock of all kinds. The many grains and grasses natural to this part of the State, which can be grown abundantly and very cheaply, invite the pursuit of dairying. The table lands of East Tennessee afford excellent grazing for beef stock, and in the Tennessee River Valley, which crosses the eastern end of the State, are grown

ample crops of cereals. The western division of the State is devoted principally to the raising of cotton, although in some sections large crops of wheat, corn, peanuts, grasses, fruit and tomatoes are grown.

The Valley of Tennessee, after crossing East Tennessee in a southerly direction, swings westward and crosses the state of Alabama. Its course then pursues a northerly direction and crosses again the State of Tennessee about one hundred miles west of Nashville. The soils of this Valley throughout its entire length are fertile, wonderfully productive, easily cultivated and produce varied crops of value, also live stock.

To the south of us, extending from the Mississippi River eastward across the States of Mississippi, Alabama, Georgia and South Carolina, lies the celebrated "Cotton Belt," its product finding market in many countries. South of the Cotton Belt the land is more sandy, being well suited to the production of sweet potatoes, sugar cane, peanuts, tobacco, fruits and many products of the garden.

The climatic conditions in the south, especially in Tennessee, being centrally located, offer the most attractive inducements to those seeking pleasant and healthful surroundings. Indeed,

owing to our long mild seasons, and favorable conditions for feed production at a low cost, probably no section in the entire country presents more inviting opportunities for profitable agricultural pursuit and live stock production.

County Fair organizations are maintained by many, if not all, of the Counties throughout the State, and the annual exhibitis enable the agriculturist, the stock breeder, the dairyman, and all those engaged in agricultural pursuits to display their products to advantage, and are the means of stimulating interest and promoting improvement in agricultural conditions generally.

Experimental and demonstration farms are maintained by the State Government at various points under the immediate supervision of expert agriculturists whose pleasure it is to instruct and educate those engaged in farming as to the character of soil best adapted to the production of certain kinds of crops, and in other ways encourage their labors in the direction that will secure the greatest results.

The substantial assistance extended by the railroads in every way manifests itself in the feeling of cordial co-operation that exists between the two interests, and the excellent transportation facilities provided insure the products of the farm reaching the markets of consumption with expedition and in good condition.

The mineral, marble and clay resources of the section described herein, consisting of enormous deposits of coal, iron ores, phosphate rock, marble, bauxite ore, shale, portland and natural cement material, sand, gravel and tile pottery clay, afford wonderful opportunities to all desiring to engage in various manufacturing pursuits. An abundance of hardwood timber offers great opportunities for the establishment of wood-working enterprises adjacent to the raw material. Probably no section of the country affords greater opportunities to the agriculturist and the manufacturer than the particular section of the south herein briefly considered.



Growing English Walnuts in Northern Climates

OWNERS of country estates and orchardists throughout the United States are just now devoting more attention to the culture of the English or Persian walnut than to any other industry. In fact, horticulturists everywhere are tremendously interested in the propagation of this delicious fruit, both from a commercial and an aesthetic point of view.

For many years the English walnut has been cultivated with more than ordinary success in California, but only very recently has a sufficiently hardy variety been found to withstand the severe winters of the Northern, Eastern and Southeastern states. The circumstances pertaining to the discovery of an unusually hardy variety, the Pomeroy English walnut, may be related as follows:

The late Norman Pomeroy, of Lockport, N. Y., while attending the Centennial Exposition in Philadelphia in 1876, noticed a species of tree totally new to him. On investigation, he found it to be an English walnut tree of surprising beauty. It was the fall of the year and the ground underneath the tree was covered with nuts. These proved to be equal, if not superior, to the taste, to any of the imported varieties with which Mr. Pomeroy was familiar.

Being thoroughly versed in arbor culture, Mr. Pomeroy propagated young trees from this acclimated variety, feeling certain that from these he would ultimately obtain an English walnut of superior hardiness, capable of resisting the rigors of almost any climate.

He planted these young trees about his residence in Niagara County, N. Y.,

in the spring of 1877, and they grew steadily, making surprising growths each year until now they stand fully 50 feet high, with a spread to their branches of 40 to 45 feet, and yielding nuts of the finest quality and in great abundance. During the 35 years of years of growth where the temperature has frequently descended far below zero, they have not had a single setback, maturing even earlier than the black walnut or the oak.

The elder Pomeroy's remarkable success has attracted the attention of nut culturists, horticulturists, and progressive farmers in all parts of this country and Europe. Nut specialists from California came East and examined the Pomeroy trees, and were well satisfied that a hardy variety for the colder states had at last been found.

Realizing the value of his father's discovery, Mr. E. C. Pomeroy, a few years ago, set out several orchards of the variety which had thriven so well, and all these trees are now in a fine state of healthy growth, and are known by nut growers all over the country. Only the other day a prominent physician in Atlantic City just returned from a tour of Austria, told Mr. Pomeroy of the fame which his orchards enjoyed abroad. As an instance of this, the doctor mentioned the name of an Austrian nut grower, who declared the Pomeroy nut to be the very best variety in the world. These nuts do not become rancid in warm weather, having been kept for several years in perfect condition, without cold storage.

So profitable has the culture of the English walnut in the Eastern and Northern states become, that owners of

farms and suburban tracts are beginning to set out large orchards, in preparation for the immense demand that is already being shown for this most edible of all nuts.

In California the nut industry is rivaling that of the orange; and even now, there are more dollars' worth of nuts shipped from the state per year than there are of oranges. This statement is meant to include all varieties of nuts, although the English walnut figures largest in the proportion.

As to planting and cultivating, English walnut trees seem to require no particular soil, but should not be set out where it is low and wet. The trees should be planted 40 to 50 feet apart each way. A cultivated crop, such as corn or potatoes, with small fruit trees for fillers, can be made to yield an income for the brief period, comparatively, before the walnuts begin to bear. The pruning should be done between fall and spring, only such branches as would interfere with cultivation being removed.

In planting on the lawn the ground about the base of the tree should be kept spaded for three feet in circumference, and after the first year some well-rotted manure should be worked into the soil around the tree. No cultivating should be done after the first of August, as it would encourage further growth, and from then until winter the annual growth of wood is ripening and hardening.

No more beautiful shade tree is known than the English walnut. They make comparatively no litter, have a pure white bark, very closely resembling that of the white birch, and bear a heavy foliage with a rich, glossy leaf. They are almost immune from insect pests, a certain alkali sap which they

possess serving to drive away the parasites which are so ruinous to the chestnut and nearly all other fruit trees.

In the English walnut at its best, the male and female blossoms mature at the same time, insuring perfect fertilization. Under favorable circumstances, the trees will bear nuts three to five years from transplanting and increase in yield yearly. Their value is being recognized and they are being used more and more as a substitute for meat, one pound of walnut meat being said to equal eight pounds of steak, in nutriment.

In transplantation, most growers have found that two to four-year-old trees are most readily transplanted. At this age most of their growth has been in roots, and removal causes them to throw out additional roots, and thus give increased vigor to the tree. Then again, the smaller the tree, the more safely may it be packed and shipped to its destination.

The Eastern grower has many advantages over his rival of the West. First of all, there is the consideration of freight charges, which on a carload from California amount to such a sum that added to the cost of the nut, naturally increases the price per pound several cents over the variety grown in the East and placed in an Eastern market.

A California grower of English walnuts who recently visited an orchard in Western New York declared the specimens which he saw there to be "the very finest I have ever seen." "You have a better flavored nut and you have proved beyond a doubt that the variety is thrifty and hardy," were his exact words. This same grower said that his few acres of young California trees gave him in 1911 a crop which he sold for \$10,000.

The 1912 International

JAMES F. WALKER, '14

THE International is the stockmen's annual convention, and the magnificence of the occasion cannot be realized by one who has not actually been there. Those interested in the animal industry gather from far and wide and Scotch herdsmen and college professors meet on common ground. The show has become a wonderful institution, the size of which is hard to comprehend. In fact so much is presented that it is impossible to see it all, and to learn everything that can be learned from such an occasion.

The International has grown so much in size, and improved so much in quality as the years have passed, that the founders themselves must be beginning to wonder where it all will end. Certain it is, that the show has obtained a position of no mean importance, and its influence on the economy of American agriculture would be hard to estimate.

The show opened this year on Saturday, Nov. 30th, and the first day was given to the Students' Judging Contest. Twelve Agricultural Colleges, including ten from the United States and two from Canada, were represented by a team of five men each. Twelve rings of stock were placed, including three each of horses, cattle, sheep, and swine. Oral reasons were given by the students on two rings of each kind of stock before the respective judging committees. The results announced showed Iowa first with 3,885 out of a possible of 5,000 points; Kansas second, with a score of 3,682; Missouri third, with 3,590; Ohio fourth, with 3,560; and Nebraska fifth, with 3,415. Ohio ranked first on hogs, second on cattle, ninth on horses, and tenth on sheep. While the Buckeye team

did not win first place, it did a great deal toward making the contest a lively one, and its work is to be commended.

The boys on the judging teams were not the only agricultural students present. Hundreds of students and dozens of professors were there, representing almost every state in the Union. Ohio did not turn out so generally as on some other years, there being only about thirty in the party. Many other states were liberally represented, however, and some traveled for long distances that they might learn the lessons of the show and return to their work instilled with new enthusiasm.

On Monday the official judging began in earnest, the fat classes of cattle, sheep, and swine receiving attention on that day. The steer show was especially pleasing, there being hot competition in all classes. The offerings showed the most correct conformation and the best of fitting. The grand championship was won by Jas. McGregor on his Angus steer, Premier Knight, who later sold for \$50 per hundred.

Competition was also hot in the barrow and wether classes, great excellence being noted especially in the latter. Ohio State University figured very prominently in the winnings, showing the first prize and champion yearling Cheviot, the first prize yearling Dorset, the second prize yearling Southdown, the second prize wether in grades and cross breds, and also the best pen of five fat sheep. Ohio had a most creditable showing of live stock all the way around, but she did herself brown on sheep.

Along with the other fat stock the

carlots of cattle, sheep, and swine must be mentioned. This is a part of the show in which there is an ever increasing interest, and 1912 brought many well fitted loads. There were eighty-seven cars of fat cattle shown, the grand championship going to E. P. Hall, Mechanicsburg, Ill., on his toppy bunch of Angus. The same gentleman also won this prize a year ago, his cattle selling for \$15.75 per hundred. This year they brought \$14 per hundred.

Great interest, of course, always centers around the Shorthorns, and whenever a ring of this breed was showing there was a group of Scotchmen and would-be Scotchman standing by to see the result. Needless to say the offerings were very fine. There were some milking Shorthorns shown this year in addition to those of the more beefy type. A two-day production contest which was carried on, gave first place in this class to a cow owned by May & Otis.

Those who are interested in the dairy type of Shorthorns are becoming quite numerous, and at the present time they are making arrangements to organize a club within the National Shorthorn Association for the better furtherance of their interests.

Other breeds of cattle also called forth enthusiasm. Angus and Herefords were there in great numbers, and the long lines of animals in each class offered a difficult proposition to the judges. Galloways, Red Polls, and Polled Durhams were also represented.

The classes in swine gave ample opportunity for study in types and breeds of this kind of stock. Berkshires, Poland Chinas, Chester Whites, Duroc-Jerseys, Hampshires, Yorkshires, and Tamworths were all there with faces washed and hair combed.

In the ovine department were to be found the finest specimens of Shropshires, Southdowns, Dorsets, Lincolns, Leicesters, Hampshires, Oxfords, Cheviots, Cotswolds, and Rambouillets. The admirers of other kinds of live stock, however ardent, and however successful, will have to take off their hats to what is being accomplished among the artful shepherds.

Lastly, we come to the exhibition of horses and the use of superlatives can scarcely be too strong. The Percherons, as usual, made a wonderful showing in all classes, the championship in stallions going to J. Crouch & Son on Imprecation, also last year's winner. The champion mare was Hysope, owned by Truman.

The quality of Shires and Clydesdales offered was never finer, and they were present in great numbers. One prominent exhibitor of Clydesdales was Robert Fairbairn, of New Jersey, who won four championships out of six horses shown. The Belgian show headed anything ever before seen in America, and the animals exhibited were of the most approved type. A few Suffolks were also shown.

In the evening program there were exhibits of saddlers, ponies, light and heavy harness horses, and the noted six horse teams. A discussion of these classes would mean a chapter in itself and will have to be left untouched.

In closing, let it be said that the International is the greatest show in America if not in the world. Those who go out from its portals cannot help but have a broader conception of life, and no agricultural student should consider his education complete until he has enjoyed at least one visit to this annual event.



OF

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STAFF.

O. M. KILE, '12, '13, Editor-in-Chief.

R. W. JORDAN, '14, Assistant Editor.

F. J. SALTER, '13, Art Editor.

J. W. HENCEROOTH, '14, Secondary Agr.

Associate Editors:

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E. R. Hoftyzer, '15.

B. A. Schnell, '13.

J. F. Walker, '14.

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COLUMBUS, OHIO, DECEMBER, 1912.

Editorial

For several months we have earnestly debated the advisability of issuing such a number as the one herewith presented. We fully appreciate our debt to Ohio and Ohio's institutions and are loath to even offer any suggestion which might by any possibility detract from her agricultural pre-eminence and glory in the eyes of our fellow students. We have traveled the length and breadth of the state and know her fields and farmsteads to be the very Ultima Thule of this primal occupation. We have personally inspected various orchards and dairy, and truck, and livestock propositions, and have found them to be safe sonally inspected various orchard and satisfactory in every respect, one might say. Yet it is because of this very success that we are led to point in other directions. Success has so enhanced values that it is no longer possible for

a young man without funds to establish himself agriculturally in our own favored state without a desperate struggle.

Many graduates of agricultural colleges find themselves forced into other lines of work because the limited funds available will not permit them to farm according to the methods for which they have been trained.

Taking everything into consideration, we have decided that it is merely a part of our duty to our constituents to publish a fair statement of the various agricultural opportunities available. Naturally not all these are enclosed within the boundaries of any one state and we have described them, wherever they are to be found.

Basing our opinion both upon general information and upon personal investigation, we have every reason to believe that the statements here presented are entirely authentic and we

have particularly guarded against any possible attempt to mislead.

A. D. 1913! How does that sound? Well, it all depends upon who is answering the question.

THE NEW YEAR The advent of the new year marks off for a few, we must remember, simply one step nearer the end. For the majority, however, New Year's day represents merely the starting post for another leisurely trot around the twelve month's course, enjoying the comforts of life as they go.

But for those of us who are young and active and vibrant with life, the coming of the new year causes the realization, with a thrill of delight, that we are one step nearer the attainment of our ambitions and the fulfillment of our ideals.

A moment's reflection, however, recalls the rapidity with which these anniversaries have recurred, and immediately we are flooded with a feeling of poignant compunction at the memory of the hours, and days, and years we have foolishly wasted. And—therefore, we do hereby highly resolve, etc.

The Thirteenth International Live Stock Exposition, by far the greatest and best of all, has passed into history.

AFTER THE SHOW. Here was seen the superlative in the live

stock realm. They were gathered from every land and from every herd and flock where the master hands and minds, the Napoleons, if you please, have striven to produce the best. The master feeders and breeders of the Old World competed with the best in the New World in their annual battle. Yea, there are great battles fought in the

large amphitheatre where the swine, ovine, bovine, and equine beauties strive for the highest honors of the live stock world, viz., the championship of the breed and of the show. Is it not fitting that the brains of the greatest stockmen of the world should be pitted against one another in the amphitheatre of peace rather than in the arena of war? As one watches these beautiful and faultless animals being displayed before the judges, he says, "Let the Battle of the Breeds" go on, but may the time soon come when we are producing the best live stock of the world rather than bringing it over from Europe.

J. W. H.

The week of February 3-7 should be a memorable one for the farmers of Franklin County. The **FARMERS' WEEK** resources and energies of the entire agricultural college will be focused upon the various activities taking place that week. No farmer in Franklin or surrounding counties can afford to miss a single session. Why can't we have several thousand farmers with their wives and sons and daughters upon the campus during that week? We can if we but develop the enthusiasm which the occasion merits. It would be one of the biggest boosts for Ohio State spirit that we have experienced for a long time.

Pass the good word along.

For some years the students and instructors, of the various Agricultural Colleges attending the **THE ANNUAL** International Live **BANQUET.** Stock Exposition, have met in an annual banquet. Each year a different college has charge of the banquet and makes all ar-

rangements necessary for its success. The object in view when this annual banquet was instituted was a worthy one, but this object of co-operation and mutual acquaintanceship was certainly not realized in this year's banquet. Unless the original idea is kept in view the banquet scarcely justifies students spending the money and time necessary to attend it. We sincerely trust that if these banquets are continued they be made a means of getting the students of the different colleges acquainted with one another and that a better spirit of fellowship and co-operation be fostered.

J. W. H.

How true it is that there is no education like travel. Our colleges now recognize this principle, as witness the numerous field trips of greater or less duration annually required of the various engineering and agricultural classes. The Germans recognized it years ago in some of their high schools, where the boys yearly take an excursion lasting several weeks. The general farming fraternity is now realizing the underlying truth of this principle, as never before, and the effect is distinctly noticeable in the ever enlarging proportions of the state fairs and the national expositions. The regular stated vacation for the farmer and his wife is becoming more common each year and will no doubt in time become just as thoroughly established and just as much ex-

pected as the fortnight's respite of the clerk and the professional man at the present time.

These are encouraging signs and indicate that the farmer is spending a greater proportion of his time in observing and planning and consequently a lesser proportion in arduous, routine labor.

Townshend is experiencing an unprecedented period of prosperity. From the very beginning of the year a maximum of interest has been shown. Excellent programs have been ar-

TOWNSHEND LITERARY SOCIETY.

anged and rendered and the attendance has been exceptional. A very large membership is not particularly desired, but there is usually no difficulty in getting one's name on the roll.

Just consider for a moment. Wouldn't you be better off on Monday evenings over at the meeting than at the club, on the streets, or just loafing? The expenditures of time and energy required to uphold your share at literary meetings are not to be compared with the rich returns to be obtained—ease, self-possession, accuracy and fluency in the art of oral expression. Better come out and get acquainted, cheerfully welcome your share of the literary work, and then carry it through to a brilliant conclusion. Townshend will profit by your presence and you yourself will profit many fold.



Mount Vernon, Dec. 4th, 1788.

Sir:

The more I am acquainted with agricultural affairs, the better I am pleased with them; inso-much that I can nowhere find so great satisfaction as in those innocent and useful pursuits. In indulging these feelings I am led to reflect how much more delightful to an undebauched mind is the task of making improvements on the earth, than all the vainglory which can be acquired from ravaging it, by the most uninterrupted career of conquests. The design of this observation is to show how much, as a member of human society, I feel myself obliged by your labors, to render respectable and advantageous an employment which is more congenial to the natural disposition of mankind than any other.

George Washington.

To Arthur Young, Esq.

ALUMNI WHAT THE BUSY GRADS ARE DOING

Richard Faxon, Agr. '10, formerly inspector on the Montana State Board of Agriculture is at present connected with the James Mills Orchard Company, of Maxwell, California.

Frank T. McFarland, Agr. '11, is an instructor in botany at the Kentucky State College at Lexington.

A. S. Neal, Agr. '04, who has been with the Extension Department, goes to Manhattan, Kansas, as assistant dairyman in the Kansas Extension Department.

John Cadwallader, Agr. '10, is connected with the Dairy Department of the Oklahoma Experiment Station. **Edward Rinehart**, Agr. '10, connected with the Extension Department year before last and Professor in Dairying in the University last year, is at present in Idaho, doing dairy farm investigation work for the United States Department of Agriculture. The first of the year, he goes to Oregon, in connection with the same work.

C. D. Steiner, Agr. 12, is connected with the Extension Department of the Kansas Agricultural College.

Tom B. Foster, Agr. '06, is managing a large dairy farm near Loveland, Ohio.

S. D. Henkle, Ex. '05, lives on a farm near Waynesville, Ohio. For the past five years, **Mr. Henkle** has been County Surveyor of Warren County. He is President of the Ohio State University, Alumni Association of Warren County and in his report of the attendance on Ohio State day, says, that twelve of the sixteen present, were either former or

present agricultural students of the University.

Perry Van Ewing, Agr. '10, is Secretary to President H. J. Watters, of the Kansas Agricultural College, located at Manhattan, Kansas.

Clyde Waugh, '12, is a member of the Editorial Staff of the Ohio Farmer.

Samuel Higginbottom, Agr. '11, is Superintendent of the Agricultural Department, Christian College, Allahabad, India. **Mr. Higginbottom**, is the author of several articles on economic and social conditions in India. At present he is devoting his energies toward developing the natural resources of India. **Mr. Wm. Bembower**, Agr. '11, is also connected with the Agricultural Department of the same college.

Prof. L. E. Call, Agr. '06, is associate agronomist at the Kansas Agricultural Experiment Station, located at Manhattan, Kansas.

C. W. McCullough, Ex. '97, resides near Steubenville, Ohio, where he is managing a general farm.

A. R. Page, Agr. '11, was a visitor at the University during the Thanksgiving vacation, attending the football game on Thursday. Mr. Page is with his father on a farm near Dennison, Ohio.

Your attention is called to the fact that in the November issue of the Agricultural Student, **Mr. Bentley's** name appeared as being the first graduate in the college of agriculture at the Ohio State University in 1885. In this issue, **Mr. Devol**, receives the honor of being the second graduate in 1886. For the

next three years the College of Agriculture was without a representative on graduation day. In 1890 two men received the degree of Bachelor of Science in Agriculture and since that time many have been sent out from the agricultural college each year. In 1890, **Knott C. Egbert** and **Charles P. Fox** received this honor. The former is connected with an Indian school in Oregon. The latter, is located at 395 Doyle St., Akron Ohio. **Mr. Fox** holds the honor of receiving the first advanced degree given in the Agricultural College, taking his Master of Science in Agriculture in 1895. At present, **Mr. Fox** is the crude rubber expert for the Diamond Rubber Company, Akron, Ohio.

The first graduate of the Domestic Science Department, of the University was **Miss Laura Weisman**, now **Mrs. C. W. Burkett**, who completed her course in 1900. **Mr. Burkett** graduated from the College of Agriculture in 1895 with the degree, Bachelor of Science in Agriculture and in 1898 with his Masters degree in the same college. **Mr. Burkett** has written and published several books along agricultural lines. Among his publications may be mentioned, "A History of Ohio Agriculture," "Our Domestic Animals," "Soils," "Farm Stock," "Farm Crops" and "Agriculture for Beginners."

H. I. Hooker, who spent a year in studying Agriculture, is now in Cincinnati, and is salesman for an auto supply house.

S. H. Sterner is farming in Hancock County. He spent three years at State.

F. B. Rarey is farming near Kenton, Hardin County.

Robert E. Holliday, one of our oldest patriarchs, who was a student at State from '73 to '75, operates a farm near Piedmont, in Harrison County.

O. W. Erven, who was enrolled one year, and **T. S. Tabler**, who was a "Short Horn" in 1911, are farming in Henry County.

A. W. Mayferth is farming in Holmes County, near Winesburg.

F. B. Roscoe is tilling the soil in Huron County.

In Licking County **T. V. Stiers** is farming, near Alexandria; **J. C. Shaw** is engaged in stock-raising, near New ark, and **B. S. Innis** and **Paul D. Meek** are farming near Pataskala.

F. D. Sharp, of Logan County; **A. D. Mason**, of Lorain County, and **A. E. Bailly**, of Mahoning County, are engaged in farming and dairying.

F. W. Nelson is farming in Meigs Co.

H. G. Winkler is a gardener in Lawrence County.

Chalmers W. DePue, '08, is an agronomist at Brookline, Mass.

J. O. Williams, '08, spent the Thanksgiving vacation with his brother, **O. W. Williams**, in Columbus. **Mr. Williams** was former business manager of this paper and today is located at Fort Collins, Colo. He has charge of the horse breeding experiments which are being carried on there in an endeavor to obtain an American carriage horse.

John C. McNutt, Ag. '07, professor of Animal Husbandry at Raleigh, N. C., stopped off at the University with his stock judging team while en route from Chicago to the South. His party of eleven men lunched at the Ohio Union after having spent the morning of the 6th in looking over the campus.

George R. Rinehart, Ag. '12, who is studying at the University of Michigan, together with his wife, formerly Miss Elsie Leue, Ag. '12, writes that the adherents of Ohio State celebrated Ohio State Day in Ann Arbor in a most enjoyable manner.

CURRENT AGRICULTURAL LITERATURE

COMMENTS AND CRITICISMS ON
CONTEMPORARY CONTRIBUTIONS

One of the newest books relating to the upbuilding of the soil is that written by the well known agricultural expert, Alva Agee. It is entitled, "Crops and Methods for Soil Improvement," and taken up a discussion of the general factors of fertility. Special chapters are devoted to such subjects as "Lime," "Organic Matter," "The Clovers," "Alfalfa," "Grass Sods," "The Cowpea," etc. Commercial fertilizers are treated in some detail and some wholesome advice is given concerning the purchase and use of farm fertilizers. Published by the Macmillan Company, New York. Price \$1.50 net.

A most instructive and readable book entitled "Hygiene for the Worker" has just been published by the American Book Company. Personal cleanliness and practical home sanitation are treated at some length. Particularly interesting are the chapters dealing with the use of safety devices for the protection of workmen. Simple directions for the treatment of tuberculosis are also included.

An Ohio Farmers' Co-operative Store. The Rural New Yorker, Nov. 30, 1912. The report of a successful co-operative stock company capitalized at \$20,000 which has made great strides towards bringing the produced and consumer closer together. The principles of the management of this Portage

County, Ohio, organization are discussed together with the plans for the future extension.

Through an error in our last issue we attributed an article on "The Ohio Experiment Station" to Mr. Clyde A. Waugh, of the Ohio Farmer, when in reality, it should have been credited to Editor John F. Cunningham, of the same publication.

The Literary Digest of November 23, enters into an interesting discussion of "The Farmer's Share of Prosperity." According to the latest Census Bureau bulletin there are two farms being worked by tenants where three are operated by their owners. Mortgaged farms have increased 17.7 per cent in the last ten years. On the other hand the average farm has doubled in value during the last twenty years. These figures together with others presented leads to interesting speculation.

"A World-wide Movement in Agriculture," by Dean H. C. Price. Twentieth Century Farmer, November 9. An article relating the cause of origin and presenting the methods pursued by the International Institute of Agriculture of Rome in carrying out its plans. This organization is supported by 50 nations of the globe comprising 95 per cent. of the land and 98 per cent of the people. It has for its object "the gathering,

summarizing and disseminating of information on the world's supply of staples of agriculture." A uniform system of collecting statistics has been adopted by the nations and besides disseminating statistical matter the organization has become a clearing house for agricultural literature.

"Agriculture at a High School." By H. F. Button, in *Rural New Yorker*, November 16. The history as well as presentation of the management of The Manassas Agricultural High School in Virginia.

"Bacteria in Soils." By Prof. Firman E. Bear, *Ohio Farmer*, November 16. In simple fashion and comprehensive language the story of soil bacteria is related. The article is written entirely from a practical agricultural standpoint. Some bits of history are mentioned in introducing the subject. It goes back to the time of Leewenhock, who found that "water usually contained great numbers of 'animalcules' which moved about in the most amusing fashion." The reproduction of bacteria is explained with special emphasis on the possibility of numbers. Temper-

ature, drainage, moisture and the removal of waste products, is also explained with reference to the conditions existing or to be supplied necessary for the maximum development and efficiency of bacteria in soils. In conclusion tables are given bearing out the importance of soil bacteria in maintaining the supply of nitrogen to the plant.

"The Relation of Cattle Feeding to Permanent Agriculture." By C. E. Thorne, *Director Ohio Experiment Station*. *Ohio Farmer* November 30. This article relates to the history of the land now occupied by the 4-year and 5-year rotation experiments, previous to its acquisition by the Experiment Station. The land on which the two systems of rotation are now practised was cared for in a radically different manner previous to its purchase. The 5-year rotation plots have received treatment both with and without various combinations of chemicals and manure. The four-year rotation plots have received treatment with and without manure but no chemicals have been used. The practical results gained from these experiments are explained together with their proper application under farming conditions.



Secondary Agriculture

Devoted to the Interests of Agricultural Education in High and Common Schools

J. W. HENCEROTH

TEACHERS, are those well laid plans that you made at the beginning of school working out as you thought they would? If not, why not? Some one has said that the successful teacher is "One who plans his work, then works his plans." This is good doctrine if the plans are good ones and suited to the particular case in hand. Let us stop and look the ground over. The school year will soon be half gone, so let us see just where we have fallen down in our work and where we have been especially successful. If a certain thing has worked exceptionally well keep it in mind, but if a pet theory has proven troublesome find out just where the trouble lies. If the class is not interested in agriculture perhaps you are not presenting the material in the best manner, or perchance you are not taking up what interests the particular class in question, or the subject matter may be beyond them at this time. At any rate be sure you know just where you stand.

At this time we want to thank all those who have taken such an interest in this department and who have contributed to its success in any way. There are many phases of work along agricultural lines that might be carried out in the High Schools of the state. Will you not write and tell us what you are doing in your school?

We call especial attention to Professor Titlow's article on Rural High School Extension Work. Professor Titlow suggests many different lines of work to be carried out in different communities. Should you, perchance, have done any of these things, just tell the readers of *The Student* about them.

Teachers, do you realize that we all graduated from the Common School and High School without learning a thing about managing the Old Farm? Why bless you, we studied about the Romans and Grecians, how to diagram long complicated sentences in grammar, and how to extract the cube root and now we can't extract the roots of the commonest weeds and make "100 bushels per acre" corn grow in their places.

Miss Jessie Wells tells what is being done in one school by the teaching of sewing to the girls. Some school people think that agriculture is all for the boys. It is well that the girls know about the workings of agriculture as it relates to the farm, however there are certain things that are of a peculiar interest to the girls. These things are too often neglected. This ought not to be, as we want to interest the girls in better housekeeping, just as we want to instill a love for better agriculture in the hearts and minds of the boys.

Teaching Sewing in School.

Seeing the great need for a sewing class in our High School, last year we determined to find some time for it. This was no easy matter as every moment seemed occupied, but as the purpose of the instruction was only to gain an interest in hand work, and not to create seamstresses, we decided to use a vacant forty-five minute period on alternate Friday afternoons.

The work was not commenced until November and the result was so satis-

the girls knew nothing of sewing and had never before used a thimble, the first four lessons were very elementary.

The first problem was a sewing bag, for this the pupils were requested to bring seventeen inches of cretonne to class. From this they made the bags, which were some what complicated and furnished an excellent lesson. Two periods were required for their completion and the pupils were expected to work upon them outside of school.

One lesson was used in teaching



A CLASS IN PLAIN SEWING.

factory, that I shall tell you how we conducted the recitations.

Through the kindness of the Agricultural Extension Department of the Ohio State University, each pupil was provided with a bulletin on sewing. This was used as a text, which was supplemented with lessons on the construction of a number of useful articles. By so doing the bulletin was not completed last year. The subjects were taken up in the order they are presented and after some practice upon the different stitches, a sample was made of muslin stitched with red thread. As many of

Swedish darning with which a guest towel was decorated. Many of the girls made a number of these towels for Christmas presents.

The third problem was a case for napkins. This should have been given first as it was not so difficult as the first and second. Very little instruction was required for the napkin case as the pupils had by this time acquired much skill.

The last problem was a simple drawn work pattern for curtains. The girls were given an eight inch square of scrim. On two sides of this was a

three inch hem, above which ten threads were drawn. A simple drawn work pattern was executed in this.

The girls gave a literary program commencement week at which they displayed their sewing. To this exercise their friends came and expressed much interest in the work. At the close of school the girls were enthusiastic over the thought that they would make their summer house dresses. Some did not let this enthusiasm die with out producing something. They reported very encouraging results this fall. Many had made dresses, some curtains, and various other house-hold articles.

Jessie Wells, McConnelsville, Ohio.

The bulletin referred to may be secured by addressing Prof. A. B. Graham, Extension Department, Ohio State University, Columbus, Ohio.

Rural High School Extension Work. **C. R. Titlow, Director Ag'l. Ex. W. Va.**

A wonderful sentiment has swept over our country towards giving the rural boys and girls the best possible school training, and the number of high schools has been increased very rapidly.

In the beginning, the rural high school, taught by teachers with city training, adopted a course of study as given in the city high school. It had for its chief aim the teaching of a course of study that would give its graduates the necessary entrance credit to colleges and universities. Inspectors were appointed, both by the State Department of Schools and the State University, to visit these highschools and classify them and to suggest work to be given that would bring the high school into the fold of the recognized list that had entrance credit.

Vocation Work.

The rural population raised objec-

tions to maintaining high schools for the preparation of a few studiously inclined boys, usually with financial means, for college, to the neglect of a more complete training of the large per cent of pupils who could not go to college. These objections were met in many districts by the placing in the high school agricultural course, domestic science and manual training as required branches of study, and by the state inspectional department, giving college credit for the work.

Too much praise can not be given to many rural high schools for the excellent work they have done along this line. The vocational training has increased the attendance of the high schools, has sent more boys to college, especially agricultural colleges, has improved farm methods, has added dignity to farm life, and has elevated the life of the entire community.

Extension Work.

The next advancement that the rural high schools should make is that of extension or community work. The rural high school will fall far short of its greatest possibilities unless it goes forth from its four walls, from its class room and its laboratories, and carries the vocational part of its courses into every home of the community, and interests every boy and girl, man and woman of the entire district in those things that not only free a community of its ignorance, superstition and suffering, but make labor more profitable and rural life worth living.

The rural high school may well take a lesson from the agricultural colleges. But a few years ago, the majority of the agricultural colleges were not known through their respective states. the attendance was small, and the "rating" among other colleges was exceedingly low, but these same colleges

that have since organized live extension departments, have taken on new life and are overflowing with students and receiving the co-operation and support of practically every organization and tax payer within their respective state. Every wide awake religious organization, educational organization, and business organization is doing some form of extension work. Community houses, boys and girls' social and improvement clubs, etc. are being formed by many religious organizations; county agricultural demonstra-

Community Leaders.

Rural communities are greatly in need of leaders to guide the co-operative work. The teacher who has been a member of a county or state teachers' association has had experience in leadership and should be a leader. As a leader he should solicit the aid of his agricultural college, the best business men, the best farmers, and farm women of his district. If he starts the work in a tactful way he will find many persons who are anxious to sacrifice both time and money for the advancement of the



AN EXHIBITION OF BREADS AND CAKES

Made by the Girls of the Schools of Jerome Township, Union County, Ohio. Baking is not taught at school, but the teachers encourage the girls to do some baking and cooking.

tors, agricultural trains, community surveys, etc., are conducted by city boards of trade in co-operation with agricultural colleges. So the wide awake rural high school teacher may be a leader for the betterment of his community and carry out from his school the practical vocational work and thus unite the efforts of all persons to elevate the farm life, the business life, and the social life of his school district. He may unite the home, the church, and the school into one great union for the betterment of the community.

community; but if his motive is that of self popularity and persists in advertising both his face and name, helpers will be few, and both school and community will suffer a great loss.

Kinds of Work.

It is impossible in the space for this article to discuss many kinds of extension work that high schools may do. Also, nearly every community has problems entirely different from any other district. Real extension work of a community must be determined by local people, but we shall suggest a few

of the forms of work and briefly discuss the starting of the work:

Agricultural exhibit day; community farm survey; rural reading circles; district literary societies; lecture courses; parents' meetings; community Y. M. C. A.; farmers' organizations; boys and girls' clubs; farmers' winter course in agriculture; high school columns in the local newspaper; demonstrations in pruning and spraying; field demonstrational work; field days; farmers' picnics; all these may well be a part of the high school extension work.

Of course, in all this work, the high school will need much outside help, a part of which can usually be secured through the Extension Department of the Agricultural College; also, in every community there are many up-to-date, scientific, and practical farmers who are very glad to give additional help.

Let the work begin by having an Agricultural Exhibit Day. Interest the pupils in the movement and appoint committees to help plan the day. Send out a neatly written invitation to every patron of the district to be present on that day and to bring any product of the farm or household that they think good enough to exhibit. Farm products, boys and girls' agricultural club products, poultry exhibits, jellies,

bread, cakes, etc. may all be brought to this meeting. Have no prizes but when there are two or more of the same kind of product, have them judged. In the afternoon have a short agricultural program and an address by an instructor from the Agricultural College. If possible have a few farmers make short talks on the needs of the community, the farm, or the school. At this meeting there should be formed an agricultural organization and a regular program of community extension work arranged for the next twelve months. The teacher should have this plan well worked out previous to the meeting.

Immediately after this meeting should begin the community farm survey. Form a card record system stating the name and address of every farmer of the community, the size of his farm, kind of farming in which he is engaged, his most profitable farm products, and space that may be used to show improvements that might be suggested. Never let the interest lag or the work stop. It may mean some extra work for the teacher, but teachers who do this kind of work will receive greater compensation both in dollars and appreciation and their high schools will have the support of every taxpayer in their respective district.



WITH THE BREEDER

NOTES OF INTEREST AMONG THE FLOCKS AND HERDS

An experiment is being conducted by the University Poultry Plant with three hundred S. C. White Leghorn pullets. The birds are divided into five lots of sixty in a pen. Two male birds are allowed to run with the pullets, each running every other day. Five different methods of feeding are being used in order to determine which method will give the best results in producing eggs this winter. The results will be watched with interest as it may help to solve the problem of getting eggs when they appear scarce.

Many good sales of pure-bred live stock are being held throughout the country at the present time. Especially is this notable through Ohio, Indiana and Illinois where some of the best types of draft horses, hogs and beef cattle are on the market. It will pay the breeder of live stock to investigate the sales, which occur so near him, as he may be able to better himself.

A short dairy school will be held at the University from Jan. 6 to Feb. 14. An endeavor to lay down the fundamentals of dairy mechanics, city milk supply, butter and cheese making, and the testing of milk and cream, will be the essential features of the course. To the farmer who is interested in such problems and who has not the time to spend in a longer course, this presents an excellent opportunity of obtaining some first class information in a limited time.

The Belgian Horse Exhibit at the International was the largest that was ever held in America. One of the noticeable features of this exhibit was the great increased proportion of native bred youngsters. If this can be taken as an indication, it looks as though the Belgian is obtaining a strong foothold in the Horse World each day. To encourage the breeding and development of this breed the European Belgian Draft Horse Association is doing commendable work. At the International they offered three silver cups and forty gold medals, and this is again indicative of the fact that before many years the Belgian will be more familiar with many more American Farmers than at the present time.

It does seem as though it is impossible to stop those compact, sleek coated Aberdeen Angus steers from running away with that purple ribbon each year. Glencarnock Victor, a grade Angus owned by J. P. McGregor and Sons, of Brandon, Manitoba is the new king. He has seen daylight not quite two years and eight months and the singular fact is that in all his life time he never had a grain of corn. During the past summer he ran on pasture all night. He was fed Manitoba hay, barley, oats and grass. Yes, it is another black year and each year is getting blacker and as Sec't. Charles Gray of the American Aberdeen Angus Breeders Association said, "It is a habit."



December News Notes

Twenty-eight men were initiated at the last meeting of the Townshend literary society held Monday, Nov. 25. This is an encouraging number and according to the men who did the initiating, about 14 in number, it will insure a splendid year for Townshend.

A. R. testing is becoming a familiar phrase around the Agricultural college, which is the short for advanced registry testing that is being done for the different cattle societies through the University by students in dairying. The number of A. R. cows are rapidly increasing in Ohio. Among the students who have tested herds during the last month or so are Byron Schnell, Paul Geiger, Harry Jones, Wallace Love, Harold Stillman, H. A. Lehman, Ernest Oliver, A. J. Henderson and H. G. Stevens.

Prof. Alfred Vivian, professor of agricultural chemistry, who is on a trip around the world describes an unusual sight in a letter to the college recently of a fern growing in healthy condition in a hermetically sealed bottle at the Rothamsted Experiment Station, England.

Concerning it, Prof. Vivian writes, "Ever since the station started 73 years ago they have been taking samples of soil which are placed in bottles and sealed for further reference. One sample of soil taken 35 years ago was placed in a bottle which was sealed with seal-

ing wax. A short time afterward a little fern started to grow in the bottle and has been alive and growing ever since. For 35 years it has continued to live and carry on all the life processes in this hermetically sealed bottle.

Prof. William Hislop, of the Animal Husbandry department, a graduate of the University of Edinburgh, Scotland, spoke at the regular November meeting of the Agricultural society. His subject was "Agricultural Methods and Conditions in Great Britain."

Prof. Wendell Paddock, of the department of Horticulture, judged the apple exhibit at the Michigan State fruit show last month. Incidentally, he was called upon to pass on the pies.

A new six-roll corn husker and shredder, having a capacity of 500 bushels a day, has been purchased for the University. A new baler for baling the fodder and two new steel cribs of 500 bushels capacity have also been installed.

Prof. A. G. McCall, of the Agronomy Department, addressed the Mercer county Farmers' Institute last month.

Prof. V. H. Davis, of the Horticultural department, judged the apple exhibit at the county fruit show given by the People's Savings Bank of Zanesville.

Glenn Hayes, who is on the business staff of the Standard Farm Paper, of Chicago, and Sam Guard, who is on the editorial staff of the Breeders' Gazette, lingered awhile at the Agricultural Student office on the Saturday of the Oberlin football game.

For the second time in the history of the University, a Live Stock Show was held on Friday, November 22, by the Department of Animal Husbandry and The Saddle and Sirloin club. The display was made just prior to the shipping of the stock to the International at Chicago.

Having more stock than in any previous year to send to the International, the show of this, together with other blooded animals of the University barns made an attractive display.

Over 500 were in attendance and everyone present seemed intensely interested in the stock, in Prof. C. S. Plumb's explanations of the history and prospects of the animals, and in the Scottish bagpiper who led the parade in style.

With the exception of alfalfa, the crop yields on the University farm have turned out better than in several previous years.

The Ohio Farmer of Cleveland has loaned the University several valuable herd books and live-stock reports, which are to be placed in the library of the Department of Animal Husbandry.

The young stock of the poultry plant is getting down to business. Since the memorial day when Miss Newlylaid awoke the University by laying an egg at the age of four months, her companions have one by one become jealous

and have duplicated the feat and have continued to continue ever since. Today a 20 per cent. yield is being obtained from the flock and from present indications this record will be tripled by Christmas.

Miscreants of some sort again found a way to check the growth of the University's herd when they butchered Flying Countess, a thoroughbred Jersey cow, on the night of Nov. 7. The cow was in pasture across the river, where such a depredation could go unseen. The incentive, since the hind quarters were taken must have been to obtain the meat, though the butchering showed the work of amateurs.

Bloodhounds were used in an effort to locate the vandals, but no clues were found whatever. The University authorities consider the matter serious as it is the second offense of this kind within a month, a valuable hog having been butchered in the same manner a short time ago.

Prof. Karl D. Swartzel, professor of mathematics, is the new dean of the summer school session.

Four students sent samples of milk to the International Dairy Show, at Milwaukee, to be scored in competition by the milk score card. With 100 as perfect, L. M. Burton scored 98, H. E. Otting 97, H. A. Lehman 91 and W. C. Lane 90. The best milk shown only scored a fraction over 98.

The Ohio Academy of Science met in session on the campus during the Thanksgiving recess, November 28, 29 and 30. Prof. W. R. Lazenby of the Forestry department acted as chairman of the entertainment committee.

Dean H. C. Price and President W. O. Thompson both attended the meeting of the American Association of Farmers' Institute Workers at Atlanta, Ga. November 12, Dean Price gave an address on "Agricultural Co-operation for Obtaining Credit."

Eighty-five agricultural students and instructors from the various colleges attending the International, met in their annual banquet, Tuesday evening, Dec. 3. There were a number of prominent speakers present, among whom were Mr. R. B. Swift, Prof. E. S. Good of Kentucky, Prof. Ellis Rail, Prof. Milton P. Jarnagin of Georgia, and Pres. A. A. Pearson of Iowa, who gave very interesting talks. These men emphasized some of the important things to be considered in an agricultural course. Mr. R. B. Swift, a farmer and an agricultural graduate, urged the men to go back to the farm and there take a part in all the community activities and carry the modern agriculture into the various parts of the country.

Uncle Sam wants five hundred men to take up homes on the irrigation projects he has been building in the West. More than 800,000 acres are receiving water from the Government ditches, and late reports from the field indicate that bumper crops have rewarded the farmer in practically all sections of the irrigated West. The crop yields on the projects of the Reclamation Service are truly remarkable in view of the fact that much of the land is practically new and many of the farmers were unfamiliar with irrigation methods until they acquired these farms.

A surprising feature that impresses visitors to these lands is the modern conditions that already surround the settler on many of the projects. Rural

telephones, centralized graded schools, good transportation facilities, and towns at short intervals are some of the things that rob life on these new lands of many of the trials of pioneering.

The available lands are all in the Northwest, mainly in Montana, South Dakota, Wyoming, and Idaho. This is the best season of the year to make a personal inspection of the farms, and different railroads offer low round trip rates to various sections. Residence does not have to be established for six months after filing, and the act of June 6, 1912, reduces the required residence from five to three years. Payments for water right are divided into ten annual installments, and if necessary five months' leave of absence each year is permitted, so that it is practical for a man with from \$1,000 to \$2,000 capital to acquire one of these desirable farms and make it pay. Booklets and information will be furnished on request by the Statistician of the Reclamation Service at Washington, D. C.

The famous Old Glory Sale occurred last month in New York. Many famous horses changed hands but not without an immense amount of money doing likewise.

THE APPLE SHOW.

Students of the University and growers of the state participated in the second annual Apple Show, Dec. 5 and 6, in Townshend Hall, making it such as would approach a state affair of such nature and showing that each year brings a growth along this line and that in the future it will be one of the most significant parts of the work of the Horticultural Society. Besides the plate, tray and box exhibits, of apples of 86 varieties, which were the main part of the show, several educational features

were held in connection. These included lectures by scientific and commercial fruit growers of Ohio, fruit grading and packing demonstration, exhibits of spraying and pruning outfits, display of forest seeds and exhibits, display of western packed fruit, and a students' judging contest. Prof. W. J. Green, of the Ohio Experiment Station, acted as judge of the entries.



THE WINNER OF THE JUDGING CONTEST GETS HIS NAME ENGRAVED UPON THIS CUP.

Of the 86 varieties shown the Baldwin, Jonathan, Russet, Grimes and Rome made up the larger and better quality of the show. This indicates the predominance of these varieties in Ohio, especially in the northern part of the state, as this was the source of most of the exhibits. Quality exhibits of other varieties in less numbers were displayed, with the Delicious, King David, Mager, Wagner, Winesap. Wealthy and

Winter Banana being the most likely to be of value in the future to build up new orchards. Guy Kesler and M. M. Scarff took some of the best prizes among the student exhibits, including the \$5.00 prize for the largest number of varieties, they showing 61 different varieties. Other student winners were Earl Jones, W. W. Ellenwood, C. L. Burkholder, H. L. Wenner, and H. C. Kelley. Successful grower exhibitors were Geo. W. Holland, H. C. Price, Earl Jones, W. W. Ellenwood, and H. Burkholder.

Forty boxes of western grown fruit were exhibited, showing superiority in points of uniformity, color, and freedom from blemishes over Ohio fruit, which reverts back to the question of superior methods of sorting and packing employed by western growers. That Ohio fruit can be as attractive was shown by several boxes on exhibit that had been carefully selected. R. R. Jeffries, of the Department of Horticulture, gave a demonstration of western packing methods.

Twenty-seven plates, including nine varieties, were judged by about 20 students in the judging contest. Three plates of each variety were placed in order of merit by the contestants who also scored the first plate of each. John Rogers took first, which means that his name will be engraved on the silver loving cup which is contested for each year. George Crane took second, which included a \$1.50 prize.

The "Varieties Best Suited for Ohio" was the subject of Prof. W. J. Green's lecture, given Thursday night of the show. He discussed the adaptability of the different varieties and emphasized the importance of quality, careful selection in reference to climate, soil and markets, planting and fillers in planning orchards for the future.

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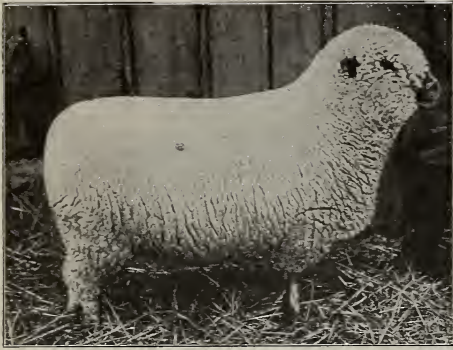
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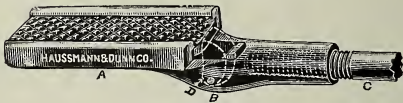
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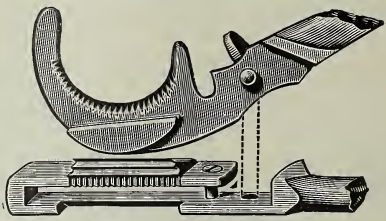
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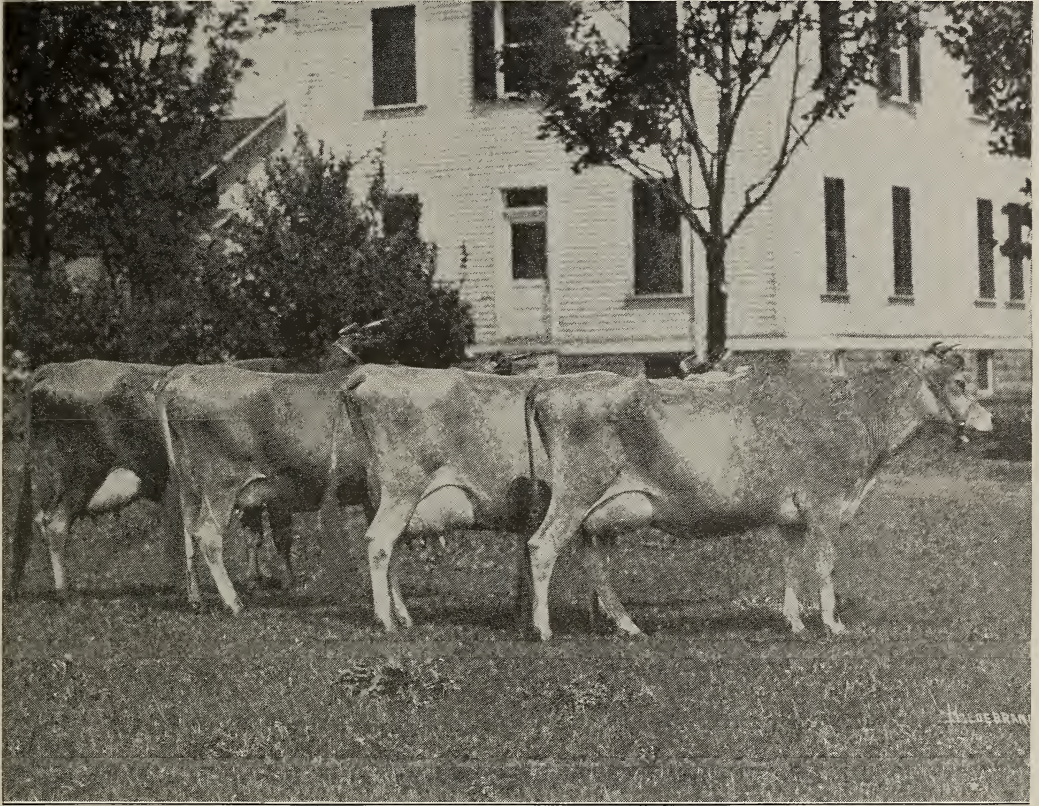
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For Agricultural Purposes

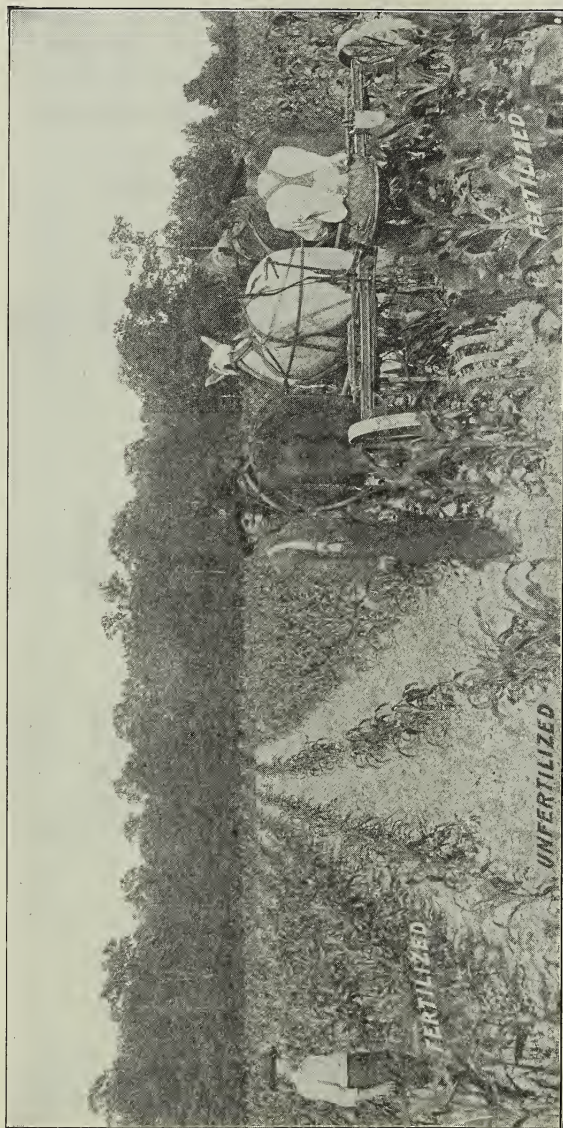
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Sacks, F. O. B. Quarry.**

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Our business is **exclusively** the production of ground Phosphate Rock.

We are **not** manufacturers of Chemical Fertilizers, with a “ground rock branch, or department.”

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The entire output of our mines goes direct to the consumer.

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The standard work on feeding
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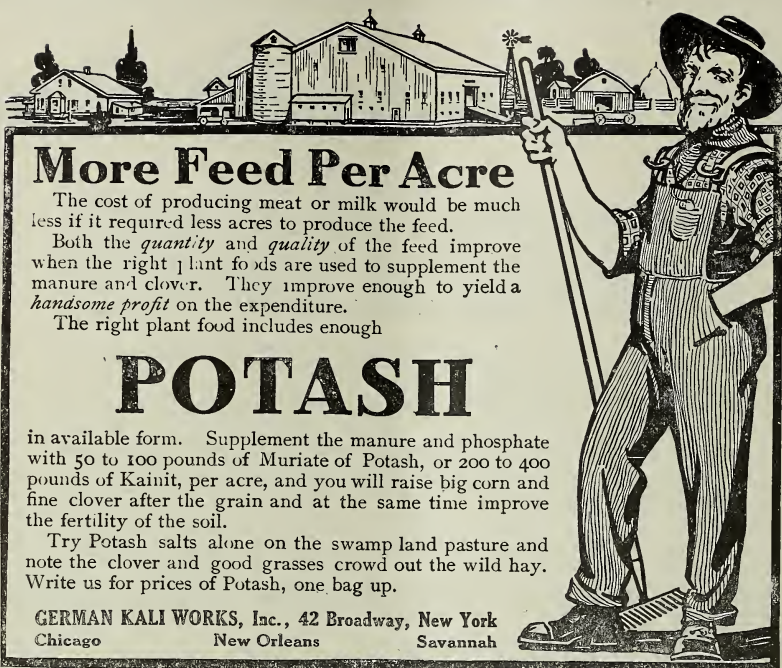
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POTASH

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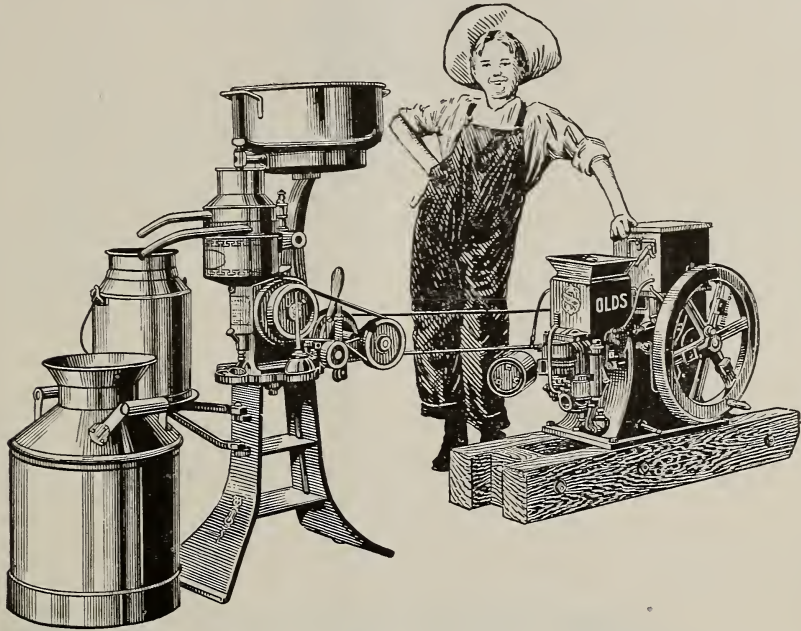
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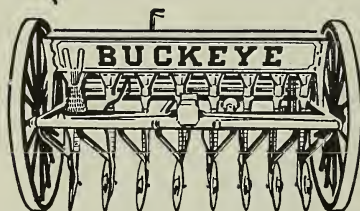
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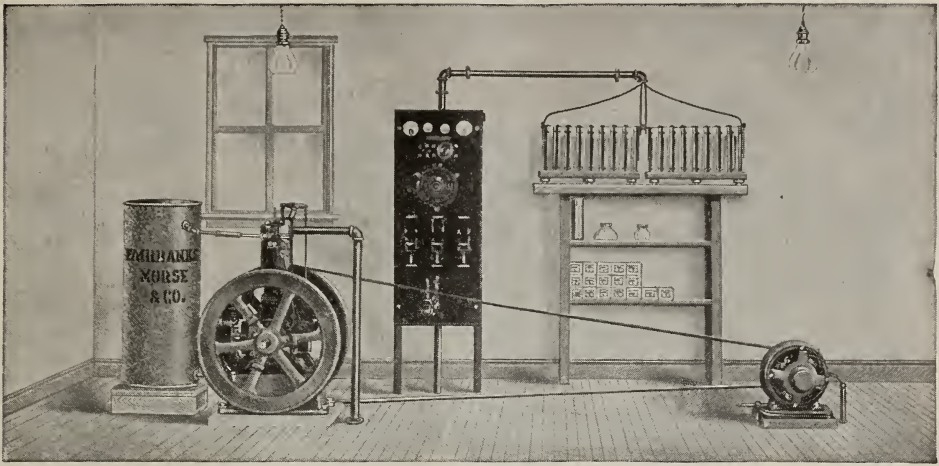
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IHC Manure Spreaders Kemp 20th Century, Corn King, Cloverleaf

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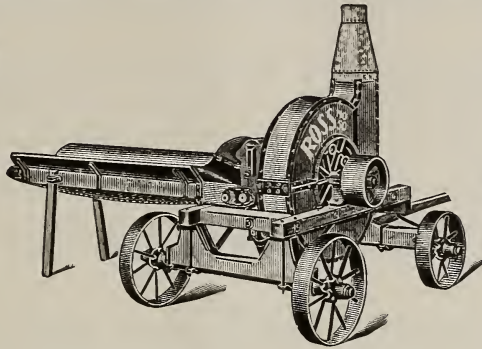
U S A

The purpose of this Bureau is to furnish, free of charge to all, the best information obtainable on better farming. If you have any worthy questions concerning soils, crops, land drainage, irrigation, fertilizer, etc., make your inquiries specific and send them to IHC Service Bureau, Harvester Building, Chicago, U S A



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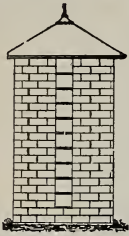
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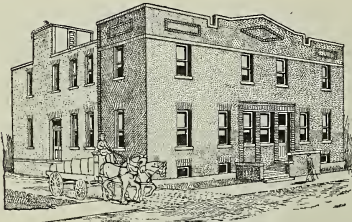
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Fig. 1345

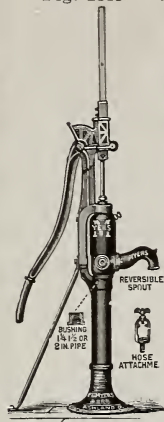


Fig. 1287

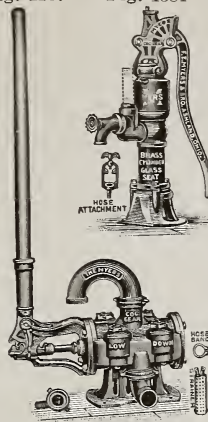


Fig. 1384

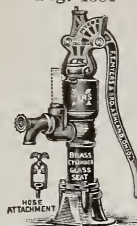


Fig. 1160



Fig. 333



Fig. 1138

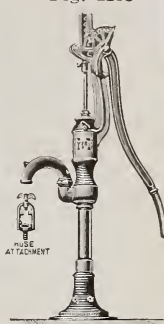


Fig. 813

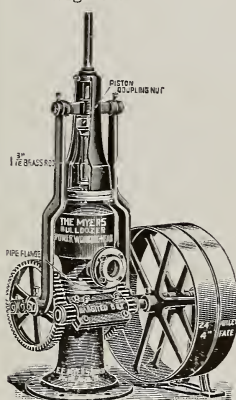
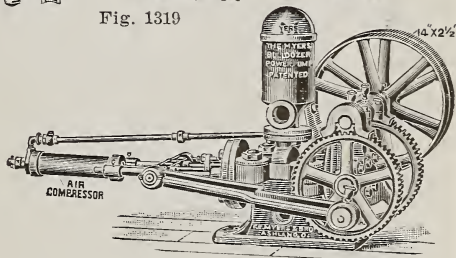


Fig. 1319



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You cannot make the excuse that you can't afford to buy a De Laval, because it will not only save its cost over any gravity setting in six months and any other separator in a year, but is sold either for cash or on such liberal terms that it will actually pay for itself.

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